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SPCC Guidance for Regional Inspectors

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U.S. Environmental Protection Agency
Office of Emergency Management
Regulation and Policy Development Division

The Oil Pollution Prevention regulation includes requirements for facilities to prepare, amend, and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans to prevent discharges of oil to navigable waters and adjoining shorelines. The regulation allows flexibility in meeting some of the requirements. This document is designed to assist regional inspectors in implementing the SPCC program and in understanding its applicability.

This document was prepared by the Regulation and Policy Development Division of the EPA Office of Emergency Management under the direction of Mark Howard and Patricia Fleming. EPA engineering review was conducted by Troy Swackhammer. Technical research, writing, and editing was provided under EPA Contract No. 68-W-03-020.

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DISCLAIMER

This document provides guidance to EPA inspectors, as well as to owners and operators of facilities that may be subject to the requirements of the Spill Prevention, Control, and Countermeasure (SPCC) rule (40 CFR Part 112) and the general public on how EPA intends the SPCC rule to be implemented. The guidance is designed to implement national policy on these issues.

The statutory provisions and EPA regulations described in this guidance document contain legally binding requirements. This guidance document does not substitute for those provisions or regulations, nor is it a regulation itself. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling. Thus, it does not impose legally binding requirements on EPA or the regulated community, and might not apply to a particular situation based upon the circumstances. The word "should" as used in this Guide is intended solely to recommend or suggest, in contrast to "must" or "shall" which are used when restating regulatory requirements. Similarly, model SPCC Plans in Appendices D, E, and F, as well as examples of SPCC Plan language in the guidance, are provided as suggestions and illustrations only. While this guidance document indicates EPA's strongly preferred approach to assure effective implementation of legal requirements, EPA decisionmakers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the statute and regulations.

Interested parties are free to raise questions and objections about the substance of this guidance and the appropriateness of the application of this guidance to a particular situation. This guidance is a living document and may be revised periodically without public notice. This document will be revised, as necessary, to reflect any relevant future regulatory amendments. EPA welcomes public comments on this document at any time and will consider those comments in any future revision of this guidance document.

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EPA OIL PROGRAM CONTACTS

For more information on the Spill Prevention, Control, and Countermeasure rule, or to contact U.S. EPA headquarters and regional offices about this guidance or related issues, please refer to the following contact information. Contact information is provided for the National Response Center, the sole national point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Superfund, TRI, EPCRA, RMP, and Oil Information Center

The Superfund, TRI, EPCRA, RMP and Oil Information Center is a publicly accessible service that provides up-to-date information on several EPA programs. The Information Center does not provide regulatory interpretations, but maintains up-to-date information on the availability of publications and other resources. The Information Center is open Monday – Friday from 9:00 a.m. - 5:00 p.m. Eastern Time (except federal holidays).

Toll free: (800) 424-9346
In the Washington, DC, area: (703) 412-9810

TDD (800) 553-7672
TDD in the Washington, D.C. area: (703) 412-3323

http://www.epa.gov/superfund/resources/infocenter/index.htm

U.S. EPA Headquarters

The EPA Office of Emergency Management (OEM) is responsible for EPA's emergency prevention, preparedness, and response duties, including the Oil Program.

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Regulatory and Policy Development Division (RPDD)
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www.epa.gov/oilspill
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U.S. EPA Regional Offices

The Oil Program is administered through EPA headquarters and the ten EPA regions, each of which is responsible for the execution of EPA programs within several states or territories. Contact information for each of the Regional Oil Programs follows.

Region 1 *– CT, ME, MA, NH, RI, VT*
One Congress Street, Suite 1100
Boston, MA 02114-2023
Main Number: (617) 918-1111

Region 2 *– NJ, NY, PR, USVI*
2890 Woodbridge Avenue
Building 209 (MS211)
Edison, NJ 08837-3679
Main Number: (732) 321-6654
SPCC Coordinator: (732) 321-6654

Region 3 *– DE, DC, MD, PA, VA, WV*
1650 Arch Street (3HS32)
Philadelphia, PA 19103-2029
Region 3 SPCC/FRP Hotline: 215-814-3452

Region 4 *– AL, FL, GA, KY, MS, NC, SC, TN*
61 Forsyth Street
Atlanta, GA 30365-3415
Main Number: (404) 562-9900
SPCC Coordinator: (404) 562-8705

Region 5 *– IL, IN, MI, MN, OH, WI*
77 West Jackson Boulevard (SE-5J)
Chicago, IL 60604-3590
Main Number: (312) 353-2000
SPCC Coordinator: (312) 886-7187

Region 6 *– AR, LA, NM, OK, TX*
1445 Ross Avenue (6SF-RO)
Dallas, TX 75202-2733
Main Number: (214) 665-6444
SPCC Coordinators: (214) 665-6489, (214)665-2785

Region 7 *– IA, KS, MO, NE*
Storage Tanks & Oil Pollution Branch
901 North 5th Street
Kansas City, KS 66101
EPA Region 7 Operations Center (913) 551-7050
SPCC Coordinator: (913) 551-7647/ (913) 551-7960

Region 8 *– CO, MT, ND, SD, UT, WY*
999 18th Street, Suite 300 (8EPR-SA)
Denver, CO 80202-2466
Main Number: (800) 227-8917
SPCC Coordinator: (303) 312-6496

Region 9 *– AZ, CA, HI, NV, AS, GU*
75 Hawthorne Street (SFD9-2)
San Francisco, CA 94105
Main Number: (800) 231-3075
SPCC Coordinator: (415) 947-8000

Region 10 *– AK, ID, OR, WA*
1200 6th Avenue (ECL-116)
Seattle, WA 98101
Main Number: (800) 424-4372
SPCC Coordinator: (206) 553-1671

Alaska
U.S. EPA Alaska Operations Office
222 West 7th Ave. #19
Anchorage, AK 99513-7588
SPCC Coordinator: (907) 271-5083

National Response Center

The National Response Center (NRC) is the sole federal point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. The NRC operates 24 hours a day, 7 days a week, 365 days a year.

United States Coast Guard (G-OPF) - Room 2611
2100 2nd Street, SW
Washington, DC 20593-0001
(800) 424-8802
(202) 267-2675

Fax: 202-267-1322

TDD: 202-267-4477

http://www.nrc.uscg.mil

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ACRONYMS LIST

AC	Advisory Circular
AFVO	Animal Fat and/or Vegetable Oil
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BMP	Best Management Practice
BOP	Blowout Preventer
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CRDM	Continuous Release Detection Method
CWA	Clean Water Act of 1972 (Federal Water Pollution Control Act)
DOI	U.S. Department of Interior
DOT	U.S. Department of Transportation
EO	Executive Order
EORRA	Edible Oil Regulatory Reform Act
E&P	Exploration and Production
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System
FDA	Food and Drug Administration
FAA	Federal Aviation Administration
FR	*Federal Register*
FRP	Facility Response Plan
GAO	General Accounting Office
GPR	General Pretreatment Regulations
IBC	Intermodal Bulk Container
ICP	Integrated Contingency Plan
IM	Intermodal
MIC	Microbial Influenced Corrosion
MMS	Minerals Management Service
MOU	Memorandum of Understanding
NACE	National Association of Corrosion Engineers
NCP	National Contingency Plan

NDE	Non-Destructive Examination
NFPA	National Fire Protection Association
NRC	National Response Center
NPDES	National Pollutant Discharge Elimination System
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety and Health Administration
PE	Professional Engineer
PMAA	Petroleum Marketers Association of America
POTW	Publicly Owned Treatment Work
PSM	Process Safety Management
RA	Regional Administrator
RBI	Risk-Based Inspection
RP	Recommended Practice
RCRA	Resource Conservation and Recovery Act
RMS	Release Management Systems
SCADA	Supervisory Control and Data Acquisition
SPCC	Spill Prevention, Control, and Countermeasure
STI	Steel Tank Institute
SWANCC	Solid Waste Agency of Northern Cook County
UIC	Underground Injection Control
UL	Underwriters Laboratory
USCG	U.S. Coast Guard
UST	Underground Storage Tank
UT	Ultrasonic Thickness
UTS	Ultrasonic Thickness Scans
UTT	Ultrasonic Thickness Testing

INTRODUCTION

In 2002, the U.S. Environmental Protection Agency (EPA) amended the Oil Pollution Prevention regulation (40 CFR part 112), which includes requirements for specific facilities to prepare, amend, and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. The regulation is largely performance-based (as requested in comments from the regulated community), which allows flexibility in meeting the rule requirements to prevent discharges of oil to navigable waters and adjoining shorelines. EPA developed this guidance document to assist regional inspectors in implementing the SPCC program and in understanding its applicability, and to help clarify the role of the inspector in reviewing a facility's implementation of performance-based flexibility provisions, such as environmental equivalence and impracticability.

1.1 SPCC Background

The Oil Pollution Prevention regulation, promulgated under the authority of §311 of the Clean Water Act (CWA), sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities. To prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil, the regulation requires these facilities to develop and implement SPCC Plans and establishes procedures, methods, and equipment requirements.

§112.2
Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

1.1.1 Purpose and Scope

Subparts A through C of part 112 are often referred to as the "SPCC rule." Focusing on oil spill prevention, preparedness, and response, the SPCC rule is designed to protect public health, public welfare, and the environment from potential harmful effects of oil discharges to navigable waters and adjoining shorelines. The rule requires facilities that could reasonably be expected to discharge oil in quantities that may be harmful into navigable waters of the United States and adjoining shorelines to develop and implement SPCC Plans. The Plans ensure that these facilities put in place containment and countermeasures that will prevent oil discharges. The requirement to develop, implement, and revise the SPCC Plan, as well as train employees to carry it out, will allow owners and operators to achieve the goal of preventing, preparing for, and responding to oil discharges that threaten navigable waters and adjoining shorelines.

Part 112 also includes requirements for Facility Response Plans (FRPs). EPA has established requirements that define who must prepare and submit an FRP and what must be included in the Plan. These requirements are found in Subpart D of 40 CFR part 112, which is often referred to as the "FRP rule."[1] Although the SPCC and FRP rules are related, and certain SPCC-regulated facilities must also comply with FRP requirements, this guidance document concerns the prevention requirements of the SPCC rule (40 CFR part 112, subparts A, B, and C).

The SPCC rule carries out EPA's authority under CWA §311. Pursuant to Executive Order 11548, EPA was delegated the authority to regulate non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines (35 FR 11677, July 22, 1970). Executive Order 11548 was superceded by Executive Orders 11735 and 12777, respectively (38 FR 21243, August 7, 1973; 56 FR 54757, October 22, 1991). The U.S. Department of Transportation (DOT) was delegated authority over transportation-related onshore facilities, deepwater ports, and vessels. A Memorandum of Understanding (MOU) between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971 (36 FR 24080, December 18, 1971), defines non-transportation-related facilities and transportation-related facilities. (A significant portion of this MOU is included as Appendix A to 40 CFR part 112.) In addition, the U.S. Department of the Interior (DOI) regulates specific offshore facilities, including associated pipelines. The jurisdictional responsibilities of EPA, DOT, and DOI in relation to offshore facilities are further discussed in another Memorandum of Understanding, dated November 8, 1993. (This MOU is included as Appendix B to 40 CFR part 112.)

1.1.2 Statutory Framework

The Federal Water Pollution Control Act of 1972, as amended, or Clean Water Act, is the principal federal statute for protecting navigable waters, adjoining shorelines, and the waters of the contiguous zone from pollution. Section 311 of the CWA addresses the control of oil and hazardous substance discharges, and provides the authority for a program to prevent, prepare for, and respond to such discharges. Specifically, §311(j)(1)(C) mandates regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil from vessels and facilities and to contain such discharges. (See Appendix A of this guidance document for the text of CWA §311(j)(1)(C).)

[1] The FRP rule applies to a subset of SPCC facilities: those that (1) have 42,000 gallons or more of oil storage capacity and transfer oil over water to or from vessels, *or* (2) have 1,000,000 gallons or more of oil storage capacity and lack secondary containment, are located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments or shut down a public water intake, *or* have experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years. See 40 CFR 112.20.

Under CWA §311(a)(1), "oil" is defined to mean "oil of any kind or in any form..." In 1975, EPA published a notice on the applicability of the SPCC rule to non-petroleum oils. The notice confirmed that all facilities processing and storing non-petroleum oils in the quantities and under circumstances set out in 40 CFR part 112 are required to prepare and implement an SPCC Plan in accordance with that part (40 FR 28849, July 9, 1975). EPA stated that the broad and comprehensive definition of "oil" in the CWA is consistent with the expressed congressional intent to strengthen federal law for the prevention, control, and cleanup of oil spilled in the aquatic environment. Both EPA and the U.S. Coast Guard[2] consistently interpreted and administered §311 as applicable to spills of non-petroleum-based oils, particularly because of the common physical and chemical properties of animal and vegetable oils and petroleum oils, and their common potential for adverse environmental impact when discharged into water.

§112.2
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; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The Oil Pollution Act of 1990 (OPA) streamlined and strengthened EPA's ability to prevent, prepare for, and respond to catastrophic oil discharges. Specifically, OPA expands prevention and preparedness activities, improves response capabilities, ensures that shippers and owners or operators of facilities that handle oil pay the costs of discharges that do occur, expands research and development programs, and establishes an Oil Spill Liability Trust Fund. OPA §4202(a)(6) amended CWA §311(j) to require regulations to be promulgated that require owners or operators of certain vessels and facilities to prepare and submit Facility Response Plans (FRPs) for responding to a worst case discharge of oil and to a substantial threat of such a discharge (CWA §311(j)(5)). EPA published the FRP rule on July 1, 1994, as an amendment to 40 CFR part 112. The FRP requirement for onshore facilities applies to any facility that, "because of its location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or the exclusive economic zone."

In 1995, Congress enacted the Edible Oil Regulatory Reform Act (EORRA). The statute mandates that most federal agencies differentiate between and establish separate classes for various types of oils; specifically, animal fats and oils and greases, fish and marine mammal oils, oils of vegetable origin, and other oils and greases (including petroleum). In differentiating between these classes of oils, EORAA directed federal agencies to consider differences in these oils' physical, chemical, biological, and other properties, and in their environmental effects. By an August 12, 1994, letter submitted on behalf of several agricultural organizations, EPA received a Petition for Reconsideration of the FRP rule as it applies to facilities that handle, store, or transport

[2] DOT delegated authority over transportation-related facilities and vessels to the U.S. Coast Guard. In March 2003, the Coast Guard formally transferred from DOT to the Department of Homeland Security, but retains this CWA authority (Executive Order 13286, 68 FR 10619, March 5, 2003).

animal fats or vegetable oils.[3] On October 20, 1997, EPA denied the petition to amend the FRP rule (62 FR 54508) because it did not substantiate the petitioner's claims that animal fats and vegetable oils differ from petroleum oils in properties and effects and concluded that the facts did not support a further differentiation between these groups of oils under the FRP rule. Instead, EPA found that a worst case discharge or substantial threat of a discharge of animal fats and vegetable oils to navigable waters, adjoining shorelines, or the exclusive economic zone could reasonably be expected to cause substantial harm to the environment, including wildlife that may be killed by the discharge.

However, in the June 30, 2000, amendments to the FRP rule, in response to EORRA requirements, EPA promulgated a separate approach for calculating planning volumes for a worst case discharge in the FRPs for animal fat and vegetable oil facilities (65 FR 40776).

EPA also published an advanced notice of proposed rulemaking requesting ideas from the public on how to differentiate among the SPCC requirements for facilities storing or using various categories of oil (64 FR 17227, April 8, 1999). In the 2002 revision of the SPCC rule, EPA provided new subparts to facilitate differentiation between categories of oil listed in EORRA; however, the requirements in each of the subparts are identical.

1.2 Regulatory History

The SPCC rule was initially promulgated in 1973, with modifications to the SPCC requirements proposed for public comment on several occasions in the 1990s. Incorporating many aspects of the earlier proposals, final revisions to the rule were published in the *Federal Register* (FR) in July 2002. However, EPA extended the compliance dates in the SPCC rule for amending existing SPCC Plans and for implementing amended or new Plans developed under revised 40 CFR part 112. EPA extended the dates to give owners and operators of affected facilities more time to understand the revised requirements, to amend and implement their SPCC Plans that comply with the revised requirements, and to understand the SPCC rule clarifications developed during settlement proceedings in response to legal challenges filed by the regulated community (see 69 FR 29728, May 25, 2004).

1.2.1 Initial Promulgation

The original SPCC rule proposal was published in the *Federal Register* on July 19, 1973 (38 FR 19334). The original SPCC final rule was published in the *Federal Register* on December 11, 1973, with an effective date of January 10, 1974 (38 FR 34164). The regulation established oil discharge prevention procedures, methods, and equipment requirements for non-transportation-related facilities with an aboveground (non-buried) oil storage capacity greater than 1,320 gallons

[3] "Petition for Reconsideration and Stay of Effective Date," August 12, 1994, submitted on behalf of the American Soybean Association, the Corn Refiners Association, the National Corn Growers Association, the Institute of Shortening & Edible Oils, the National Cotton Council, the National Cottonseed Products Association, and the National Oilseed Processors Association.

(or greater than 660 gallons aboveground in a single tank) or a buried underground oil storage capacity greater than 42,000 gallons. Regulated facilities were also limited to those that, because of their location, could reasonably be expected to discharge oil into the navigable waters of the United States or adjoining shorelines. The rule included sections on general applicability, relevant definitions, and requirements for preparation of SPCC Plans; provisions for SPCC Plan amendments; civil penalty provisions; and requirements for the substance of the SPCC Plans.

Two early revisions were made to the original SPCC rule. On August 29, 1974, the regulation was amended (39 FR 31602) to set out EPA's policy on civil penalties for violation of the CWA §311 requirements. On March 26, 1976, the rule was again amended (41 FR 12567), primarily to clarify the criteria for determining whether or not a facility is subject to the regulation. This rulemaking also clarified that SPCC Plans must be in a written form (§112.7, introductory paragraph) and specified procedures for developing SPCC Plans for mobile facilities.[4]

1.2.2 SPCC Task Force and GAO Recommendations

In January 1988, a four-million gallon aboveground storage tank in Floreffe, Pennsylvania, experienced a brittle fracture of the tank shell, which then split apart, collapsed, and released approximately 3.8 million gallons of diesel fuel. Of this amount, approximately 750,000 gallons were discharged into the Monongahela River. The spill temporarily contaminated drinking water sources, damaged the ecosystems of the Monongahela and Ohio rivers, and negatively affected private property and local businesses. Following the discharge, an SPCC Task Force was formed to examine federal regulations governing discharges from aboveground storage tanks. The Task Force, consisting of representatives from EPA headquarters and regions, other federal agencies, and the states, issued its findings and recommendations in May 1988. The findings focused on the prevention of catastrophic discharges and recommended changes to the SPCC program (EPA, "The Oil Spill Prevention, Control, and Countermeasures Program Task Force Report," Interim Final Report, May 13, 1988).[5]

Figure 1-1. Aboveground storage tank in Floreffe, Pennsylvania

[4] Mobile facilities include onshore drilling or workover rigs, barge-mounted offshore drilling or workover rigs, and portable fueling facilities.

[5] Available in EPA docket OPA-1991-0001.

Specifically, the Task Force recommended that EPA establish additional technical requirements for SPCC Plan preparation and implementation, including:

- Adopting industry standards for new and relocated tanks;
- Differentiating SPCC requirements based on facility size;
- Modifying timeframes for SPCC Plan preparation, implementation, and review;
- Requiring strengthened integrity testing and periodic inspection of tanks and secondary containment;
- Requiring a more stringent attestation for a Professional Engineer to certify an SPCC Plan;
- Ensuring that employees undergo response training; and
- Modifying definitions and providing additional preamble discussion.

The Task Force also recommended that EPA expand the scope of the regulation to include requirements for facility-specific contingency planning and to specify countermeasures to be employed if a discharge should extend beyond the site in an uncontrolled manner. To better identify violations and enforce compliance, the Task Force recommended that EPA strengthen its facility inspection program. The Task Force also found that EPA did not have an adequate inventory of facilities subject to the regulation, and that improvements in national response coordination may be possible. Finally, the Task Force commented on the role of state and local resources and other federal agencies in oil discharge prevention and response efforts, and also recommended funding research on the development of oil discharge removal and control technology.

In response to both the Monongahela River spill and an oil spill at an oil refinery in Martinez, California, in April 1988, the General Accounting Office (GAO) examined the adequacy of the federal regulations of aboveground oil storage tanks and the extent to which they addressed the unique problems of inland oil discharges. GAO's report, "Inland Oil Spills: Stronger Regulation and Enforcement Needed to Avoid Future Incidents," contained recommendations on regulations, inspections, enforcement, and government response that were similar to those of the SPCC Task Force (February 1989, GAO/RCED-89-65).[6] To amend the SPCC regulation, GAO made recommendations to the EPA Administrator that EPA require:

- Aboveground oil storage tanks to be built and tested in accordance with industry and other specified standards;
- Facilities to plan how to react to a spill that overflows facility boundaries; and
- Storm water drainage systems to be designed and operated to prevent oil from escaping through them. Oil escaped through the drainage system during the oil spill in Martinez, California.

[6] Available in EPA docket OPA-1991-0001.

For inspections, GAO recommended that EPA (1) strengthen its aboveground oil storage facility inspection program by coordinating with state and local authorities, developing procedures for conducting and documenting inspections, defining and implementing minimum training procedures for inspectors, and establishing a national policy for fining violators; and (2) consider advantages and disadvantages of supplementing EPA inspection resources with state and local inspection resources and requiring that facilities obtain certification from independent engineers that facilities are in compliance with the regulations. Finally, the report also included a recommendation to Congress that it amend the CWA to explicitly authorize the federal government to recover the costs of monitoring oil spill cleanups performed by private responsible parties, and to EPA that it consider re-establishing the oil spill research and development program.

1.2.3 Proposed Revisions

Following the Monongahela River spill and recommendations of the SPCC Task Force and GAO, EPA proposed substantive revisions to the SPCC requirements on three occasions (1991, 1993, and 1997) and solicited public comment on these revisions. Specifically:

- On October 22, 1991 (56 FR 54612), EPA proposed changes in the applicability of the SPCC rule and in the required procedures for completing SPCC Plans, as well as the addition of a facility notification provision. The proposed rule also reflected changes in the jurisdiction of CWA §311 made by the 1977 and 1978 amendments to the Act.

- On February 17, 1993 (58 FR 8824), EPA published an additional proposed rule to incorporate new requirements added by OPA that directed facility owners and operators to prepare plans for responding to a worst case discharge of oil and to a substantial threat of such a discharge (the FRP rule). EPA promulgated the FRP rule on July 1, 1994 (59 FR 34070). The 1993 proposed rule also included revisions to the SPCC requirements, including: (1) a requirement for an SPCC Plan to address training and methods of evaluating containers for protection against brittle fracture; (2) provisions for Regional Administrators to require amendments to an SPCC Plan and to require a Plan from an otherwise exempt facility when necessary to achieve the goals of the CWA; and (3) a requirement for Plan submission if an owner or operator invokes a waiver to certain technical requirements of the SPCC rule.

- On December 2, 1997 (62 FR 63812), EPA proposed further revisions to the SPCC rule in an effort to reduce the information collection burden without creating an adverse impact on public health or the environment. The proposed revisions were intended to give facility owners and operators flexibility to use alternative formats for SPCC Plans; to allow the use of certain records maintained pursuant to usual and customary business practices, or pursuant to the National Pollutant Discharge Elimination System (NPDES) program, in lieu of records mandated by the SPCC requirements; to reduce the information required to be submitted after certain discharges; and to extend the interval between SPCC Plan reviews by the facility owner/operator. At this time, EPA also proposed amendments to the FRP requirements, which were finalized on June 30, 2000 (65 FR 40776).

1.2.4 Final Rule Revision

On July 17, 2002, EPA issued a final rule amending the Oil Pollution Prevention regulation, primarily with respect to the SPCC subparts of part 112 (67 FR 47042). The final rule became effective on August 16, 2002, and modified many aspects of the proposals described above. As a performance-based regulation, the rule provides flexibility to the regulated community in meeting many of the oil discharge prevention requirements and the overall goal of preventing oil spills that may impact navigable waters or adjoining shorelines. In addition, the final rule includes new subparts outlining the requirements for various classes of oil (pursuant to EORRA), revises the applicability of the regulation, amends the requirements for completing SPCC Plans, and makes other modifications. The final rule also contains a number of provisions designed to decrease regulatory burden on facility owners and operators subject to the rule, while preserving environmental protection.

In response to the final SPCC amendments, several members of the regulated community filed legal challenges to certain aspects of the rule.[7] Settlement discussions between EPA and the plaintiffs led to an agreement on all issues except the definition of navigable waters. On May 25, 2004, EPA published a notice in the *Federal Register* (69 FR 29728) clarifying specific provisions of the SPCC rule that it developed in the course of settlement. The *Federal Register* notice clarified statements regarding loading/unloading racks and impracticability that were challenged by the plaintiffs. In addition, EPA clarified aspects of the wastewater treatment exemption and specified which definition of “facility” applies to §112.20(f)(1). EPA also announced the availability of a letter from EPA to the Petroleum Marketers Association of America (PMAA), which provides additional guidance on equivalent environmental protection with respect to requirements for integrity testing, security, and loading racks.[8]

The specific amendments to the SPCC rule are discussed in more detail in Section 1.3, Revised Rule Provisions, below, as well as in Appendix C, Summary of Revised SPCC Rule Provisions.

[7] See *American Petroleum Institute* v. *Leavitt* et al., No. 1;102CV02247 PLF and consolidated cases (D.D.C. filed November 14, 2002). Lead plaintiffs in the cases were the American Petroleum Institute, Marathon Oil Co., and the Petroleum Marketers Association of America.

[8] The *Federal Register* Notice and letter to PMAA are available on the Oil Program Web site, http://www.epa.gov/oilspill.

1.2.5 Compliance Date Amendments

Following the 2002 final rule, on four occasions EPA extended the compliance dates for facilities to update (or for new facilities to prepare) and implement an SPCC Plan that complies with the revised requirements. The extensions provided additional time for the regulated community to understand the SPCC amendments and the implications of the settlement clarifications, and alleviated the need for individual extension requests.

EPA issued final rules in 2003, 2004, and 2006 (68 FR 1348, January 9, 2003; 68 FR 18890, April 17, 2003; 69 FR 48794, August 11, 2004; and 71 FR 8462, February 17, 2006) that each extended the compliance dates in §112.3(a) and (b). The 2004 and 2006 final rules also amended the compliance dates for onshore and offshore mobile facilities (§112.3(c)). The current compliance dates in §112.3(a) and (b) for facilities are as follows:

A facility starting operation...	**Must...**
On or before August 16, 2002	Maintain the facility's existing SPCC Plan. Amend and implement the SPCC Plan no later than October 31, 2007.
After August 16, 2002, through October 31, 2007	Prepare and implement an SPCC Plan no later than October 31, 2007.
After October 31, 2007	Prepare and implement an SPCC Plan before beginning operations.

Mobile facilities must prepare, implement, and maintain a Plan as required by the SPCC rule. They must amend and implement the Plan, if necessary to ensure compliance with the revised SPCC rule, on or before October 31, 2007. Mobile facilities that become operational after October 31, 2007, must prepare and implement a Plan before starting operations (§112.3(c)).

1.3 Revised Rule Provisions

The 2002 revision to the SPCC rule clarifies the language and organization of the regulation, makes technical changes, and reduces regulatory burden. This section provides an overview of the rule's organization and highlights some of the more substantive changes made to the rule.

For the inspector's reference, Appendix B of this document includes the Oil Pollution Prevention regulation, 40 CFR part 112, in its entirety and current as of the publication of this document. Since the regulation is subject to change, this appendix is provided for informational purposes only. The *Federal Register*, the official daily publication for rules, proposed rules, and notices of federal agencies and organizations, is available electronically from the Government Printing Office Web site at http://www.gpoaccess.gov/fr/. General and permanent rules published in the *Federal Register* are also codified in the *Code of Federal Regulations* (CFR), available electronically at http://www.gpoaccess.gov/cfr/. Inspectors implementing the SPCC program should always consult the aforementioned resources (or their equivalent) to obtain the current version of the SPCC rule.

1.3.1 Rule Organization

Part 112 is divided into four subparts, according to the oil and facility type. Subparts A, B, and C address oil discharge prevention requirements and are commonly referred to as the "SPCC rule." Subpart D, commonly referred to as the "FRP rule," addresses facility response planning requirements in the event of an oil discharge, and includes the FRP requirements and facility response training and drill requirements. The part is organized as follows:

Subpart A	Applicability, definitions, and general requirements for all facilities and all types of oil
Subpart B	Requirements for petroleum oils and non-petroleum oils, except those covered in Subpart C
Subpart C	Requirements for animal fats and oils and greases, and fish and marine mammal oils; and for vegetable oils, including oils from seeds, nuts, fruits, and kernels
Subpart D	Response requirements

Pertaining to all oil and facility types, Subpart A contains key sections of the SPCC rule, including:

§112.1 General Applicability

§112.2 Definitions

§112.3 Requirement to Prepare and Implement an SPCC Plan

§112.4 Amendment of an SPCC Plan by Regional Administrator

§112.5 Amendment of an SPCC Plan by Owners or Operators

§112.7 General Requirements for SPCC Plans

Additional requirements for specific facility types are given in §§112.8 through 112.12,[9] and are found within subparts B and C. These facility types and their corresponding sections of the rule are:

Onshore Facilities (excluding production facilities)	§§112.8 and 112.12
Oil Production Facilities (onshore)	§112.9
Oil Drilling and Workover Facilities (onshore)	§112.10
Oil Drilling, Production, or Workover Facilities (offshore)	§112.11

The Oil Pollution Prevention regulation also contains several appendices, including Memoranda of Understanding and appendices referenced in the FRP rule (Substantial Harm Criteria, Determination of a Worst Case Discharge Planning Volume, Determination and Evaluation of Required Response Resources for Facility Response Plans, and a model Facility-Specific Response Plan).

1.3.2 Summary of Major Revisions

The 2002 final SPCC rule is a performance-based regulation that allows owners, operators, and the certifying Professional Engineer (PE) flexibility in meeting many of the prevention requirements. Assisting inspectors in the evaluation of the proper use of environmental equivalence and impracticability is one of the primary objectives of this guidance document. The "environmental equivalence" provision allows facilities to deviate from specified substantive requirements of the SPCC rule (except secondary containment provisions) by implementing alternate measures, certified by a PE, that provide equivalent environmental protection. Deviations are not allowed for the administrative provisions of the rule, §§112.1 through 112.5, and for certain additional requirements in §112.7, such as recordkeeping and training provisions. Additionally, in situations where secondary containment is not practicable, the owner/operator must clearly explain the reason for the determination in the SPCC Plan; for bulk storage containers, conduct periodic integrity testing of containers and associated valves and piping; and prepare an oil spill contingency plan and a written commitment of manpower, equipment, and materials to expeditiously control and remove any quantity of oil discharged that may be harmful (§112.7(d)).

The 2002 final rule revised many of the rule provisions, both to provide regulatory relief and to make technical changes. The rule exempts many completely buried tanks, containers storing less than 55 gallons, and certain wastewater treatment operations/facilities; raises the regulatory threshold; and both reduces information required after a discharge and raises the regulatory trigger for its submission. In addition, the rule decreased the frequency of Plan review from every three years to every five years.

[9] The 2002 SPCC rule includes requirements within subpart C that are not applicable or are inappropriate for animal fats and vegetable oils. As a result, §§112.13 through 112.15 are not included here. These sections were promulgated because EPA had not proposed differentiated SPCC requirements for public notice and comment.

Technical changes to the rule include requiring brittle fracture evaluation for field-constructed aboveground containers; strengthening the integrity testing requirements; finalizing additional general requirements for spill planning, preparedness, and reporting; adding a requirement for a facility diagram; clarifying the rule's applicability to the operational use of oil; and making the PE certification and associated attestation more specific. Also, the rule allows alternative formats for SPCC Plans with a cross-reference and mandates specific time frames for employee training.

The specific amendments to each section of the SPCC rule are highlighted in Appendix C of this document, Summary of Revised SPCC Rule Provisions. Also, Chapter 2 of this document discusses in greater detail the applicability of the revised SPCC rule, including facilities, activities, and equipment subject to SPCC requirements.

1.4 Using This Guidance

SPCC Guidance for Regional Inspectors is intended to assist EPA regional inspectors in implementing the revised SPCC rule, including environmental equivalence, impracticability, and integrity testing, as well as the role of the inspector in the review of these provisions. This guidance does not address all aspects of the SPCC rule. It is intended to establish a consistent understanding among regional EPA inspectors on how certain provisions of the rule may be applied. It is not, however, a substitute for the regulation itself.

> Throughout the document, excerpts of the SPCC rule that are relevant to a particular section of this document are provided in text boxes. This information is provided for informational purposes only. The reader should always refer to the full text of the current 40 CFR part 112 for the applicable regulatory language, available from the Government Printing Office Web site at http://www.gpoaccess.gov/fr/.

Many of the terms used in this guidance document have specific regulatory definitions in 40 CFR 112.2; however, other regulatory programs may define some of these terms differently. Please refer to §112.2 of the rule and associated preamble of the July 2002 *Federal Register* publication for clarification of defined terms in the SPCC rule. An Acronyms List, provided at the beginning of this document, defines all acronyms used throughout the guidance.

This document is divided into seven main chapters and includes several appendices for the reader's reference, as follows:

Chapter 1: Introduction discusses the purpose and scope of the 40 CFR part 112, the regulatory history, and the July 2002 amendments.

Chapter 2: Applicability of the SPCC Rule clarifies the facilities, activities, and equipment that are subject to the SPCC rule through an in-depth discussion of the rule and relevant scenarios.

Chapter 3: Environmental Equivalence discusses the use of the "environmental equivalence" provision, which allows facilities to implement alternate measures based on site-specific considerations, as long as the measures provide equivalent environmental protection, in accordance with good engineering practice and as determined by a PE.

Chapter 4: Secondary Containment and Impracticability Determinations discusses the secondary containment requirements and explains when an impracticability determination can be made and how the determination should be documented.

Chapter 5: Oil/Water Separators addresses various scenarios involving oil/water separators with respect to the SPCC rule requirements.

Chapter 6: Facility Diagrams provides guidelines on the necessary level of detail for facility diagrams included in SPCC Plans. This section also includes example facility diagrams for different types of facilities.

Chapter 7: Inspections, Evaluation, and Testing explains the inspection, evaluation, and testing requirements for facilities subject to the SPCC rule, as well as how "environmental equivalence" may apply for the integrity testing requirements of the SPCC rule.

The appendices include a complete copy of the relevant sections of the statutory authority from the Clean Water Act; the Oil Pollution Prevention regulation (40 CFR part 112); the Discharge of Oil regulation (40 CFR part 110); the Criteria for State, Local and Regional Oil Removal Contingency Plans (40 CFR part 109); a summary of revised rule provisions; inspector checklists; model SPCC Plans; and a model contingency plan.

APPLICABILITY OF THE SPCC RULE

2.1 Introduction

The SPCC rule regulates non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines. This chapter clarifies the facilities, activities, and equipment that are subject to the SPCC rule. It is the responsibility of the facility owner/operator to make the determination whether the facility is subject to the requirements of the SPCC rule. This determination is subject to review by the Regional Administrator or his delegated representative.

2.1.1 Summary of General Applicability

> **§112.1(b)**
> ...this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming **oil and oil products,** which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines...
>
> Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

Section 112.1 establishes the general applicability of the SPCC rule by describing both the facilities, activities, and equipment that are subject to the rule and those that are excluded. In general, SPCC-regulated facilities are non-transportation-related, have aboveground oil storage capacity of more than 1,320 gallons on site, and could reasonably be expected to discharge oil to navigable waters or adjoining shorelines in quantities that may be harmful. Facilities owned and operated by federal government agencies are subject to the regulation to the same extent as any other facility (although the federal government is not subject to civil penalties). Likewise, facilities owned and operated by state and local governments are subject to the regulation. Section 112.1(d) describes the facilities, activities, and equipment excluded from the rule based on jurisdiction or through exemptions or exclusions from storage capacity calculations. Exemptions pertain to whether a facility or part thereof is included in the SPCC-regulated universe, and exclusions from storage capacity determine which containers count when determining a facility's total oil storage capacity. In addition to facilities that are excluded from the SPCC rule because they are not subject to EPA's jurisdiction, §112.1(d) exempts:

- Any facility where the storage capacity of completely buried storage tanks and associated piping and equipment does not exceed 42,000 gallons *and* the aggregate aboveground storage capacity does not exceed 1,320 gallons;
- Any container with a storage capacity less than 55 gallons at a facility, whether or not subject to the requirements of the SPCC rule; and
- Any facility or part thereof used exclusively for wastewater treatment.

Exclusions from storage capacity calculations include:

- Containers with a storage capacity of less than 55 gallons;
- Storage containers used exclusively in wastewater treatment;
- Completely buried tanks and associated piping and equipment that are subject to all of the technical requirements under 40 CFR part 280 or 281; and
- The capacity of any “permanently closed” aboveground storage container.

Notwithstanding the exemptions and exclusions provided in §112.1(d), under §112.1(f) the Regional Administrator has discretion to require the owner or operator of any facility, subject to EPA’s jurisdiction under §311(j) Clean Water Act (CWA), to submit an SPCC Plan, or part of an SPCC Plan, in order to carry out the purposes of the CWA.

This chapter further explains each of the applicability criteria listed in §112.1 and provides examples of how these criteria are applied. The remainder of this chapter is organized as follows:

- **Section 2.2** discusses the definition of “oil” and the regulated activities.
- **Section 2.3** discusses the difference between “transportation-related” and “non-transportation-related” facilities in determining jurisdiction of regulatory agencies.
- **Section 2.4** discusses the term “reasonable expectation of discharge to navigable waters in quantities that may be harmful.”
- **Section 2.5** addresses the storage capacity thresholds and the methods of calculating storage capacity.
- **Section 2.6** addresses the exemptions to the SPCC rule.
- **Section 2.7** discusses the process for a Regional Administrator to determine applicability, outside of §112.1(d) requirements.
- **Section 2.8** addresses the applicability of the rule requirements to oil-filled equipment (including manufacturing or process equipment), in contrast to bulk storage containers.
- **Section 2.9** discusses the applicability of Facility Response Plans (FRPs).
- **Section 2.10** describes the role of the EPA inspector.

2.2 Definition of Oil and Activities Involving Oil

> **§112.2**
> *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; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The SPCC rule applies to facilities with the potential to discharge "oil" in quantities that may be harmful to navigable waters and adjoining shorelines. The SPCC rule's definition of oil originated from the Clean Water Act (CWA). Section 311(a)(1) of the CWA defines oil as "oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil." Petroleum oils include crude and refined petroleum products, asphalt, gasoline, fuel oils, mineral oils, naphtha, sludge, oil refuse, and oil mixed with wastes other than dredged spoil (67 FR 47075).

The U.S. Coast Guard (USCG) compiled a list of substances it considers oil, based on the CWA definition. The list is available on the USCG Web site.[1] Note, however, that the USCG list is not comprehensive and does not define "oil" for purposes of 40 CFR part 112. EPA may determine that a substance, chemical, material, or mixture is an oil even if it is not on the USCG list.

2.2.1 Animal Fats and Vegetable Oils

Oil covered under the SPCC regulation is further described in 40 CFR 112.2 as including "fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil." Oil includes animal fats and vegetable oils.

2.2.2 Synthetic Oils

The SPCC rule applies to synthetic oils. Synthetic oils are used in a wide range of applications, including as heat transfer fluids, engine fluids, hydraulic and transmission fluids, metalworking fluids, dielectric fluids, compressor lubricants, and turbine lubricants. Synthetic oils are created by chemical synthesis rather than by refining petroleum crude or extracting from plant seeds. The base materials from which synthetic oils are synthesized include glycols, esters, polyalphaolefins, aromatics, silicone fluids, Group III base oils, and others. Because of their origin, synthetic oils are generally covered under subpart B of 40 CFR 112, which covers "petroleum oils and *non-petroleum oils*..." Certain oils are synthesized from plant material, and thus may be considered with animal fats and vegetable oils under subpart C of 40 CFR part 112, which, as

[1] See the "List of Petroleum and Non-Petroleum Oils" on the USCG Web site at http://www.uscg.mil/vrp/faq/oil.shtml.

discussed below, applies to “animal fats and oils and greases, and fish and marine mammal oils; and...vegetable oils, including oils from seeds, nuts, fruits, and kernels.”

2.2.3 Determination of “Oil” for Natural Gas and Hazardous Substances

Natural Gas

Natural gas (including liquid natural gas and liquid petroleum gas) is not considered an oil. EPA does not consider highly volatile liquids that volatilize on contact with air or water, such as liquid natural gas or liquid petroleum gas, to be oil (67 FR 47076). Petroleum distillate or oil that is produced by natural gas wells and stored at atmospheric pressure and temperature (commonly referred to as condensate or drip gas), however, is considered an oil.

Dry gas production facilities are not subject to the SPCC rule. A dry gas production facility produces natural gas from a well (or wells) but does not also produce condensate or crude oil that can be drawn off the tanks, containers, or other production equipment at the facility. EPA has clarified that a dry gas production facility does not meet the description of an “oil production, oil recovery, or oil recycling facility” for which the wastewater treatment exemption would apply under §112.1(d)(6).[2] See excerpt below:

Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule, (May 25, 2004)

The Agency has been asked whether produced water tanks at dry gas facilities are eligible for the SPCC rule’s wastewater treatment exemption at 40 CFR 112.7(d)(6). A dry gas production facility is a facility that produces natural gas from a well (or wells) from which it does not also produce condensate or crude oil that can be drawn off the tanks, containers or other production equipment at the facility.

The SPCC rule’s wastewater treatment exemption excludes from 40 CFR part 112 “any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part.” However, for the purposes of the exemption, the “production, recovery, or recycling of oil is not wastewater treatment.” In interpreting this provision, the preamble to the final rule states that the Agency does “not consider wastewater treatment facilities or parts thereof at an oil production, oil recovery, or oil recycling facility to be wastewater treatment for purposes of this paragraph.”

It is our view that a dry gas production facility (as described above) would not be excluded from the wastewater treatment exemption based on the view that it constitutes an “oil production, oil recovery, or oil recycling facility.” As discussed in the preamble to the July 2002 rulemaking, “the goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil. . . .” 67 FR 47068. A dry gas facility does not meet this description.

See 69 FR 29729, 29730.

Wet gas production facilities are subject to the SPCC rule. In addition to natural gas, wet gas production facilities produce condensate or crude oil that can be drawn off the tanks,

[2] “Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule,” 69 FR 29728, May 25, 2004.

containers, or other production equipment at the facility. Since wet gas production facilities produce and store condensate, which is considered an oil, they are regulated under the SPCC rule.

Hazardous Substances and Hazardous Waste

The definition of "oil" in §112.2 includes "oil mixed with wastes other than dredged spoil." Oils covered under the SPCC rule therefore include certain hazardous substances or hazardous wastes that are mixed with oil, as well as certain hazardous substances or hazardous wastes that are themselves oils. Containers storing these substances may also be covered by other regulations, such as the Resource Conservation and Recovery Act (RCRA), or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. Inspectors should evaluate whether containers storing hazardous substances or mixtures of wastes contain oil. Although the rule contains an exemption for completely buried tanks that are subject to all underground storage tank (UST) technical requirements of 40 CFR part 280 and/or a state program approved under part 281, tanks containing RCRA hazardous wastes are not subject to the UST rules, and therefore are not exempt under §112.1(d)(2)(i) or (4) if they contain oil.

Hazardous substances that are neither oils nor mixed with oils are not subject to SPCC rule requirements.

2.2.4 Activities Involving Oil

Section 112.1(b) specifies that the owners or operators of facilities involved in one or more of the following oil-related activities are regulated under the SPCC rule, provided they meet the other applicability criteria in §112.1: "drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products." Table 2-1 provides examples of these activities.

§112.1(b)
...this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in **drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming** oil and oil products....

Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

Table 2-1. Examples of oil-related activities that may be regulated under 40 CFR part 112.

Activity	Examples of Oil-related Regulated Activities
Drilling	Drilling a well to extract crude oil or natural gas and associated products (such as wet natural gas) from a subsurface field.
Producing	Extracting product from a well and separating the crude oil and/or gas from other associated products (e.g., water, sediment).
Gathering	Collecting oil from numerous wells, tank batteries, or platforms and transporting it to a main storage facility, processing plant, or shipping point.
Storing	Storing oil in containers prior to use, while being used, or prior to further distribution in commerce.
Processing	Treating oil using a series of processes to prepare the oil for commercial use, consumption, further refining, manufacturing, or distribution.
Refining	Separating crude oil into different types of hydrocarbons through distillation, cracking, reforming, and other processes; separating animal fats and vegetable oils from free fatty acids and other impurities.
Transferring	Transferring oil between containers, such as between a railcar or tank truck and a bulk storage container, or between stock tanks and manufacturing equipment.
Distributing	Selling or marketing oil for further commerce or moving oil using equipment such as highway vehicles, railroad cars, or pipeline systems. Note that businesses commonly referred to as oil distributors and retailers commonly are also “storing” oil, as described above.
Using	Using oil for mechanical or operational purposes in a manner that does not significantly reduce the quantity of oil, such as using oil to lubricate moving parts, provide insulation, or for other purposes in electrical equipment, electrical transformers, and hydraulic equipment.
Consuming	Consuming oil in a manner that reduces the amount of oil, such as burning as fuel in a generator.

2.3 “Non-transportation-related” Facilities – EPA/DOT Jurisdiction

2.3.1 Definition of Facility

The extent of a “facility” under SPCC depends on site-specific circumstances. Factors that may be considered relevant in delineating the boundaries of a facility for SPCC purposes may include, but are not limited to:

- Ownership, management, and operation of the buildings, structures, equipment, installations, pipes, or pipelines on the site;
- Similarity in functions, operational characteristics, and types of activities occurring at the site;
- Adjacency; or

- Shared drainage pathways (e.g., same receiving waterbodies).

> **§112.2**
> *Facility* means any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The facility owner or operator, or a Professional Engineer (PE) on behalf of the facility owner/operator, determines what constitutes the "facility." Note that the facility determination for purposes of the SPCC rule should be the same as that used to determine FRP applicability.

While the facility owner/operator has some discretion in defining the parameters of the facility, the boundaries of a facility should not be drawn to purposely avoid regulation under 40 CFR part 112. For example, two contiguous operational areas, each with 700 gallons in aboveground storage capacity, that have the same owner, perform similar functions, are attended by the same personnel, and are in other ways indistinguishable from each other, would reasonably be expected to represent a single facility under the SPCC rule, and would therefore be required to have an SPCC Plan, since the capacity of this facility is above the 1,320-gallon aboveground threshold. These two operational areas would not be defined as two separate facilities under the definition of "facility" in §112.2.

Alternatively, a single facility may be composed of various oil-containing areas spread over a relatively large campus. For instance, different operational areas within a military base may be considered a single facility. The military base may not necessarily include single-family homes occupied by military personnel as part of the facility if these are considered personal space similar to civilian single-family residences. However, the facility may include larger military barracks for which a branch of the military controls, operates, and maintains the space.

If a facility is regulated under the SPCC rule, it is the responsibility of the facility owner and operator to ensure that an SPCC Plan is prepared. A site may have multiple owners and/or operators, and therefore can have several facilities. Factors to consider in determining which owner or operator should prepare the Plan include who has control over day-to-day operations of the facility or particular containers and equipment, who trains the employee(s) involved in oil handling activities, who will conduct the required inspections and tests, and who will be responsible for responding to and cleaning up any discharge of oil. EPA expects that the owners and operators will cooperate to prepare one or more Plans, as appropriate.

SPCC facilities include not only permanent facilities with fixed storage and equipment, but also those that have only standby, temporary, and seasonal storage as described under §112.1(b)(3), as well as construction facilities. Mobile facilities are addressed in §112.3(c), which allows such facilities to create a general Plan, instead of developing a new Plan each time the facility is moved to a new location.

2.3.2 Determination of Transportation-related and Non-transportation-related Facilities

Facilities are divided into three categories: transportation-related facilities, non-transportation-related facilities, and complexes. The determination of transportation-related and non-transportation-related facilities has been established through a series of Executive Orders (EOs) and Memoranda of Understanding (MOUs) as described below.

Onshore and certain offshore non-transportation-related facilities (and portions of a complex) are subject to the SPCC regulation, provided they meet the other applicability criteria set forth in §112.1. A facility with both transportation-related and non-transportation-related activities is a "complex" and is subject to the dual jurisdiction of EPA and DOT. The jurisdiction over a component of a complex is determined by the activity occurring at that component. An activity might at one time subject a facility to one agency's jurisdiction, and a different activity at the same facility using the same structure or equipment might subject the facility to the jurisdiction of another agency. Which activity would be subject to EPA jurisdiction and which activity would be subject to DOT jurisdiction is defined by the 1971 DOT-EPA MOU.

A 1971 MOU between EPA and DOT clarifies the types of facilities, activities, equipment, and vessels that are meant by the terms "transportation-related onshore and offshore facilities" and "non-transportation-related onshore and offshore facilities." DOT delegated authority over vessels and transportation-related onshore and offshore facilities to the Commandant of the U.S. Coast Guard.[3] Sections of the MOU between EPA and DOT are included in Appendix A of 40 CFR part 112. Section 112.1(d)(1)(ii) specifically exempts from SPCC applicability any equipment, vessels, or facilities subject to the authority and control of the DOT as defined in this MOU.

A 1994 MOU among the Secretary of the Interior, the Secretary of Transportation, and the Administrator of EPA establishes the jurisdictional responsibilities for offshore facilities, including pipelines. This MOU can be found in Appendix B of 40 CFR part 112. Section 112.1(d)(1)(iii) specifically exempts from SPCC applicability any equipment, vessels, or facilities subject to the authority of the DOT or DOI as defined in this MOU.

Table 2-2 provides examples of transportation-related and non-transportation-related facilities as the concepts apply to the SPCC rule applicability. Some equipment, such as loading arms and transfer hoses, may be considered either transportation-related or non-transportation-related depending on their use.

[3] The USCG was reorganized under the Department of Homeland Security in March 2003.

Table 2-2. Examples of transportation-related and non-transportation-related facilities from the 1971 DOT-EPA Memorandum of Understanding.

Transportation-related Facilities (DOT Jurisdiction)	**Non-Transportation-related Facilities** (EPA Jurisdiction)
• Onshore and offshore terminal facilities, including transfer hoses, loading arms, and other equipment used to transfer oil in bulk to or from a vessel, including storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels • Transfer hoses, loading arms, and other equipment appurtenant to a non-transportation-related facility used to transfer oil in bulk *to or from a vessel* • Interstate and intrastate onshore and offshore pipeline systems • Highway vehicles and railroad cars that are used for the transport of oil	• Fixed or mobile onshore and offshore oil drilling and production facilities • Oil refining and storage facilities • Industrial, commercial, agricultural, and public facilities that use and store oil • Waste treatment facilities • Loading racks, transfer hoses, loading arms, and other equipment used to transfer oil in bulk *to or from highway vehicles or railroad cars* • Highway vehicles, railroad cars, and pipelines used to transport oil within confines of non-transportation-related facility

2.3.3 EPA/DOT Jurisdiction Scenarios

This section describes common scenarios that have raised jurisdictional questions regarding the distinction between transportation-related and non-transportation-related facilities for applicability of SPCC requirements. Inspectors should evaluate the intended activity carefully because the determination of jurisdiction is not always straightforward.

Tank Trucks

EPA regulates tank trucks as “mobile/portable containers” under the SPCC rule if they operate exclusively within the confines of a non-transportation-related facility. For example, a tank truck that moves around within the facility and only leaves the facility to obtain more fuel (oil) would be considered to distribute fuel exclusively at one facility. This tank truck would be subject to the SPCC rule if it, or the facility, contained above the regulatory threshold amount (see Section 2.5 of this document) and there was a reasonable expectation of discharge to navigable waters or adjoining shorelines. Similarly, an airport refueler or construction refueler that fuels exclusively at one site would be subject to the SPCC rule. However, if the tank truck distributed fuel to multiple off-site facilities, the tank truck would be transportation-related, and regulated by DOT.

Tank trucks that are used in interstate or intrastate commerce can also be regulated if they are operating in a fixed, non-transportation mode. For example, if a home heating oil truck makes its deliveries, returns to the facility, and parks overnight with a partly filled fuel tank, it is subject to the SPCC rule if it, or the facility has a capacity above the threshold amount (see Section 2.5 of this document), and there is a reasonable expectation of discharge to navigable waters or shorelines.[4] However, if the home heating oil truck's fuel tank contains no oil when it is parked at the facility, other than any residual oil present in an emptied vehicle, it would be regulated only by DOT.[5] For more information, refer to Chapter 4 of this document (Secondary Containment and Impracticability Determinations), which discusses secondary containment requirements.

Railroad Cars

DOT regulates railroad cars from the time the oil is offered for transportation to a carrier until the time that it reaches its destination and is accepted by the consignee. DOT jurisdiction includes railroad cars that are passing through a facility or are temporarily stopped on a normal route. EPA regulates railroad cars after the transportation process ends; that is, when the railroad cars are serving as non-transportation-related storage at an SPCC-regulated facility. EPA jurisdiction includes railroad cars that are at their final destination, and/or if loading or unloading has begun. If loading/unloading has begun, the railroad car itself may become the non-transportation-related facility even if no other containers at the property would qualify the property. To be considered a non-transportation-related facility, the railroad car must store oil in an amount above the regulatory threshold, and there must be a reasonable expectation of discharge to navigable waters (§112.1(d)).[6]

EPA regulates railroad cars under the SPCC rule if they are operating exclusively within the confines of a non-transportation facility. A railroad car would be subject to the SPCC rule if it, or the facility, had a capacity above the regulatory threshold amount of oil, and there was a reasonable expectation of discharge to navigable waters or adjoining shorelines.

Any Loading/Unloading Activities

EPA regulates the activity of loading or unloading oil in bulk into storage containers (such as those on tank trucks or railroad cars), as well as all equipment involved in this activity (e.g., a hose or loading arm attached to a storage tank system). A "loading/unloading area" is any area of a facility where oil is transferred between bulk storage containers and tank trucks or railroad cars. These areas are subject to the general secondary containment requirements in §112.7(c). If a "loading/unloading rack" is present, the requirements of §112.7(h) apply to the loading/unloading rack area. For more information, refer to Chapter 4 of this document (Secondary Containment and Impracticability Determinations), which includes a discussion of secondary containment requirements for loading/unloading areas.

[4] In this case, the facility would include the truck storage capacity in its aggregate capacity determination in order to determine whether it is above the 1,320 gallon aboveground threshold for SPCC applicability.

[5] EPA addressed this scenario in a letter from Stephen Heare, Office of Emergency and Remedial Response, to Melissa Young of Petroleum Marketers Association of America (2001). See Appendix H.

[6] EPA addressed the applicability of the SPCC rule to railroad cars by addressing specific scenarios in a letter to the Safety-Kleen Corporation in July 2000. See Appendix H.

Marine Terminals

A marine terminal is an example of a “complex” that is subject to U.S. Coast Guard (USCG) and EPA jurisdiction. The USCG regulates the pier structures, transfer hoses, hose-piping connection, containment, controls, and transfer piping associated with the transfer of oil between a vessel and an onshore facility. EPA regulates the tanks, internal piping, loading racks, and vehicle/rail operations that are completely within the non-transportation portion of the facility (33 CFR part 154, Facilities Transferring Oil or Hazardous Material in Bulk). EPA jurisdiction begins at the first valve inside secondary containment. If there is no secondary containment, EPA jurisdiction begins at the valve or manifold adjacent to the storage tank (33 CFR 154.1020).

Vessels (Ships/Barges)

The U.S. Coast Guard regulates the loading or unloading of oil from a vessel to an onshore facility, as well as the oil-carrying ship and the connecting piping (33 CFR part 155, Oil or Hazardous Material Pollution Prevention Regulations for Vessels). In this scenario, a vessel is a ship or a barge. The oil passes from the USCG’s jurisdiction to that of the EPA when it passes the first valve of the secondary containment for the storage container. If there is no secondary containment, EPA’s jurisdiction begins at the first valve or manifold closest to the storage container. Storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels are under USCG jurisdiction.

Motive Power

Motive power containers are located in or on a motor vehicle, such as on-board bulk oil storage containers used solely to power the movement of a motor vehicle, or ancillary on-board, oil-filled operational equipment used solely to facilitate its operation. A motive power container can be considered non-transportation-related and subject to the SPCC rule. However, EPA does not believe that the intent of the SPCC rule was to regulate motive power containers, including oil-filled tanks used to fuel the propulsion of vehicles, such as buses, sport utility vehicles, construction vehicles, and farm equipment.

Breakout Tanks

Breakout tanks are usually used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline. They are also sometimes used for bulk storage. A breakout tank may be regulated by EPA, DOT, or both depending on how the tank is used. For example, breakout tanks that are used solely to relieve surges in a pipeline and are not used for any non-transportation-related activity (i.e., pipeline-in and pipeline-out configuration, with no transfer to other equipment/mode of transportation such as a tank truck), would be subject to DOT jurisdiction. A bulk storage container used to store oil while also serving as a breakout tank for a pipeline or other transportation-related purpose would be subject to both DOT and EPA jurisdiction.[7] For more information, see the EPA and DOT joint memorandum dated February 4, 2000, which clarifies regulatory jurisdiction over breakout tanks.[8]

2.4 Reasonable Expectation of Discharge to Navigable Waters in Quantities That May Be Harmful

2.4.1 Definition of "Discharge" and "Discharge as Described in §112.1(b)"

According to §112.1(b), the SPCC rule applies to facilities that could reasonably be expected to discharge oil in "quantities that may be harmful, as described in part 110 of this chapter..." The Discharge of Oil regulation at 40 CFR part 110 (also referred to as the "sheen rule") defines a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in quantities that may be harmful under the CWA as that which:

- Causes a sheen or discoloration on the surface of the water or adjoining shorelines;
- Causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines; or
- Violates an applicable water quality standard.

A discharge meeting any of the above criteria triggers requirements to report to the National Response Center (NRC). The failure to report such a discharge may result in criminal sanctions under the CWA. The appearance of a "sheen" on the surface of the water is often used as a simple way to identify harmful discharges of oil that should be reported. The appearance of a sheen, however, is not a necessary factor; the presence of a sludge or emulsion, or of another deposit of oil beneath the water surface, or the violation of an applicable water quality standard also indicates a harmful discharge.

Section 311 of the CWA defines and prohibits certain discharges of oil. These requirements are also codified in 40 CFR part 112. As defined in §112.2, a "discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of any amount of oil no matter where it occurs. It excludes certain discharges associated with §402 of the CWA and §13 of the River and Harbor Act of 1899. The primary distinction between the §112.2 and §112.1(b) definitions of discharge is that a discharge as described in §112.1(b) is a violation of §311 of the Clean Water Act, whereas a §112.2 discharge (i.e., one that does not impact a navigable water or adjoining shoreline) is not a violation. For example, if a tank leaks a puddle of oil into a facility's basement, this would be considered a discharge of oil, but is not necessarily a violation of the CWA because the oil did not reach a navigable water or adjoining shoreline (and would not be a discharge as described in §112.1(b)).

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[7] See also the 1971 MOU between DOT and EPA (Appendix A of 40 CFR part 112), and EPA/DOT memo "Jurisdiction over Breakout Tanks/Bulk Oil Storage Tanks (Containers) at Transportation-Related and Non-Transportation-Related Facilities" for specific examples of dual jurisdiction. See Appendices A and H.

[8] See Appendix H.

The SPCC regulation includes requirements for corrective action as well as additional reporting requirements. For example, in §112.8(c)(10), a facility is required to promptly correct visible discharges that result in a loss of oil from a container. A discharge of any amount would need to be cleaned up, but would not be considered a violation of the spill prohibition (a discharge as described in §112.1(b)), unless it impacts a navigable water or adjoining shoreline. Additionally, if a facility discharged more than 42 gallons of oil in each of two discharges as described in §112.1(b) over a 12-month period, the facility would be required to report each spill to the NRC, clean up the spill, and submit a report to the Regional Administrator, and may be required to amend its Plan. The same is true if the facility has a single discharge as described in §112.1(b) of more than 1,000 gallons. For more information on these reporting requirements, see §112.4 of the rule.

2.4.2 Reasonable Expectation of Discharge

The SPCC rule applies only to facilities that, due to their location, can reasonably be expected to discharge oil as described in §112.1(b). The rule does not define the term "reasonably be expected." The owner or operator of each facility must determine the potential for a discharge from his/her facility. According to §112.1(d)(1)(i), this determination must be based solely upon consideration of the geographical and locational aspects of the facility. An owner or operator should consider the location of the facility in relation to a stream, ditch, gully, or storm sewer; the volume of material likely to be spilled; drainage patterns; and soil conditions. An owner or operator may not consider constructed features, such as dikes, equipment, or other manmade structures that prevent, contain, hinder, or restrain a discharge as described in §112.1(b), when making this decision.

§112.1(b)
...this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, **could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter**....

Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

A facility owner or operator, however, should consider the presence of manmade structures that may serve to convey discharged oil to navigable waters, such as sanitary or storm water drainage systems, even if they lead to a publicly owned treatment work (POTW) prior to ultimate discharge into navigable waters. The presence of a treatment system such as a POTW cannot be used to determine that the facility is not reasonably expected to discharge to navigable waters or adjoining shorelines. POTWs can fail to contain oil. They are not designed to handle oil discharges and are on occasion forced to bypass to receiving waterbodies during extreme weather events or when upsets occur in the treatment system.

The following factors may prove useful to consider in determining whether there is a reasonable expectation of discharge:

- Whether a past discharge of oil reached a navigable water or adjoining shoreline, which indicates that another could be reasonably expected;
- Whether the facility is adjacent to navigable waters and a discharge to the navigable waters could be reasonably expected;
- Whether on-site conduits, such as sewer lines, storm sewers, and certain underground features (e.g., power or cable lines, or groundwater), could facilitate the transport of discharged oil off-site to navigable waters;
- Whether a unique geological or geographic feature would facilitate the transport of discharged oil off-site to navigable waters;
- Whether the facility is near a watercourse and intervening natural drainage;
- Whether precipitation runoff could transport oil into navigable waters; and
- The quantity and nature of oil stored.

2.4.3 Geographic Scope

EPA revised the geographic scope of the SPCC regulation in 2002 to be more consistent with the CWA. Formerly, the geographic scope of the rule extended to navigable waters of the United States and adjoining shorelines. The rule reflects the full geographic scope of EPA's authority to include a discharge:

- Into or upon the waters of the contiguous zone;
- In connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974; or
- That may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

The rule's scope includes discharges harmful not only to the public health and welfare, but also to the environment through the protection of natural resources. Such protection would apply to resources under the Magnuson Fishery Conservation and Management Act, a statute that establishes exclusive U.S. management authority over all fishing within the exclusive economic zone (inner boundary coterminous with the seaward boundary of each coastal state), and all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf.

2.4.4 Definition of "Navigable Waters"

Section 112.2 provides the SPCC rule's definition of "navigable waters." See the text box below.

§112.2
Navigable waters means the waters of the United States, including the territorial seas.
(1) The term includes:
(i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
(ii) All interstate waters, including interstate wetlands;
(iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
(A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or
(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,
(C) That are or could be used for industrial purposes by industries in interstate commerce;
(iv) All impoundments of waters otherwise defined as waters of the United States under this section;
(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;
(vi) The territorial sea; and
(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.
(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

See "Joint Memorandum of U.S. Army Corps of Engineers and EPA providing clarifying guidance regarding the Supreme Court's decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159 (2001) (SWANCC))," [9] 68 FR 1995, January 15, 2003.

[9] There is currently pending a petition for review challenging the definition of "navigable waters" in 40 CFR 112.2., *American Petroleum Institute v. Leavitt*, No. 1:102CV02247 PLF and consolidated cases (D.D.C. filed Nov. 14, 2002).

2.5 Storage Capacity

2.5.1 Capacity Thresholds

> **§112.1(d)**
> Except as provided in paragraph (f) of this section, this part does not apply to: ...
> (2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:
> (i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. ...
> (ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. ...
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The SPCC rule applies to a facility that has more than 42,000 gallons of completely buried oil storage capacity or more than 1,320 gallons of aggregate aboveground oil storage capacity, provided it meets the other applicable criteria set forth in §112.1.

According to §112.1(b)(1) through (4), the rule is applicable to eligible facilities that have oil in aboveground containers; completely buried tanks; containers that are used for standby storage, for seasonal storage, or for temporary storage, or are not otherwise "permanently closed"; and "bunkered tanks" or "partially buried tanks" or containers in a vault. Containers include not only oil storage tanks, but also mobile or portable containers such as drums and totes, and oil-filled equipment such as electrical equipment (e.g., transformers, circuit breakers), manufacturing flow-through process equipment, and operational equipment. However, §112.1(d)(2) limits the applicability to facilities with oil capacity above specific threshold amounts.

Once a facility is subject to the rule, *all* aboveground containers and completely buried tanks are subject to the rule requirements (unless these containers are otherwise exempt from the regulation, as is the case for containers smaller than 55 gallons). For example, a facility could have 10,000 gallons of aggregate aboveground storage capacity in tanks and oil-filled equipment of 55 gallons or more, and a completely buried tank of 10,000 gallons that is not subject to all of the technical requirements of 40 CFR part 280 or a state program approved under part 281 (and therefore not exempt). Since the aboveground storage capacity exceeds 1,320 gallons, all of the tanks and oil-filled equipment, including the buried tank, are subject to the SPCC rule.

> **§112.2**
> *Completely buried tank* means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

2.5.2 Storage Capacity Calculation

Sections 112.1(d)(2)(i) and (ii) clarify which containers are included and excluded when calculating total storage capacity at a facility in determining whether it exceeds the volume limits in the rule. These containers are discussed below and summarized in Table 2-3.

What to Count

- All containers of oil with a capacity of 55 gallons or greater are to be counted (unless listed below) when calculating total oil storage capacity at a facility.

What Not to Count

- Permanently closed containers are not counted when calculating total oil storage capacity. “Permanently closed,” as defined in §112.2, refers to containers “for which (1) All liquid and sludge has been removed from each container and connecting line; and (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.”

- Completely buried tanks, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems that are currently subject to all of the technical requirements of 40 CFR part 280 or all of the technical requirements of a state program approved under 40 CFR part 281 are not counted. Such tanks must still be marked on the facility diagram as provided in §112.7(a)(3). “Completely buried tank” as defined in §112.2 refers to “any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.”

Table 2-3. Summary of storage capacity calculation as described in §112.1(d)(2)(i) and (ii).

Included	Excluded
Capacity of containers (e.g., bulk storage containers, oil-filled equipment, mobile/portable containers) with a capacity of 55 gallons or greater	Capacity of completely buried tank and associated underground piping, ancillary equipment, and containment systems subject to all technical requirements of 40 CFR part 280 or a state-approved program under 40 CFR part 281
	Capacity of containers that are permanently closed

2.5.3 Definition of Storage Capacity

> **§112.2**
> *Storage capacity* of a container means the shell capacity of the container.
>
> Note: The above text is an excerpt of the SPCC rule. See 40 CFR part 112 for the full text of the rule.

Under the SPCC rule, if a container has the requisite capacity, it does not matter whether the container is actually filled to that capacity. The storage capacity of a container is defined as the shell capacity of the container. If a certain portion of a container is incapable of storing oil because of its integral design (e.g., mechanical equipment or other interior components take up space), then the shell capacity of the container is reduced to the volume the container might hold (67 FR 47081). Generally, the shell capacity is the rated design capacity rather than the working/operational capacity.

2.5.4 Tank Re-rating

Shell capacity should be used as the measure of storage capacity, unless changes are made to the design shell capacity in a permanent, non-reversible manner. For example, when the integral design of a container has been altered by actions such as drilling a hole in the side of the container so that it cannot hold oil above that point, shell capacity remains the measure of storage capacity because such alteration can be altered again at will to restore the former storage capacity. When the alteration is an action such as the installation of a double bottom or new floor to the container, the integral design of the container has changed, and may result in a reduction in shell capacity.

An addition or modification to a field-erected storage tank should be performed in accordance with industry standards and the original design specifications. Relevant industry standards include American Petroleum Institute (API) Standard 653 “Tank Inspection, Repairs, Alteration, and Reconstruction” (API-653). This standard includes additions or modifications to shell penetrations such as overfill diverters. However, even where such modifications are done in accordance with standards, the tank may not be considered re-rated to a lower capacity; the capacity remains equal to the original rated shell capacity. An owner or operator may reduce the capacity of a tank only by changing the shell dimensions (i.e., by removing shell plate sections). Since SPCC requirements are based on shell capacity, modifying a vent, overflow, or other tank appurtenances that reduce the working fill capacity does not affect SPCC requirements, including facility capacity determination and secondary containment requirements.

2.6 Exemptions to the Requirements of the SPCC Rule

In addition to the criteria described above, §112.1(d) describes certain types of additional equipment and facilities that are exempted from SPCC rule requirements.

> **§112.1(d)**
> Except as provided in paragraph (f) of this section, this part does not apply to: ...
> (3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

2.6.1 Facilities Subject to Minerals Management Service Regulations

Section 112.1(d)(3) excludes offshore oil drilling, production, or workover facilities that are subject to notices and regulations of the Minerals Management Service (MMS). MMS regulations require adequate spill prevention, control, and countermeasures that are directed more specifically to the facilities subject to the regulations. The facilities are regulated by the Department of Interior as specified in the DOI-DOT-EPA MOU (40 CFR part 112, Appendix B).

2.6.2 Underground Storage Tanks

Under §112.1(d)(4), the SPCC rule exempts completely buried storage tanks, as well as connected underground piping, underground ancillary equipment, and containment systems, when such tanks are subject to all of the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281 (also known as the Underground Storage Tank regulations). Although these tanks are exempt from the SPCC requirements, they must still be marked on the facility diagram if the facility is otherwise subject to the SPCC rule (§112.7(a)(3)).

The regulations at 40 CFR parts 280 and 281 comprise the Underground Storage Tank (UST) Program, which requires owners and operators of new tanks and tanks already in the ground to prevent, detect, and clean up releases. The UST program defines USTs differently than the SPCC rule does. The UST Program considers an underground storage tank to be a tank and any underground piping that has at least 10 percent of its combined volume underground. However, under the SPCC rule, only *completely* buried tanks subject to all of the technical UST Program requirements are exempt from the rule. Any tanks that are not completely buried are considered aboveground storage tanks and subject to the SPCC rule.

> **§112.1(d)**
> Except as provided in paragraph (f) of this section, this part does not apply to: ...
> (4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The following are either excluded from the definition of UST or are exempt from the UST regulations at 40 CFR part 280 (and therefore may be subject to the SPCC rule, if the completely buried tanks contain oil):

- Tanks with a capacity of 110 gallons or less;
- Farm or residential tanks with a capacity of 1,100 gallons or less used for storing motor fuel for non-commercial purposes;
- Tanks used for storing heating oil for consumptive use on the premises where stored;
- Tanks storing non-petroleum oils, such as animal fat or vegetable oil;
- Tanks on or above the floor of underground areas (e.g., basements or tunnels);
- Septic tanks and systems for collecting storm water and wastewater;
- Flow-through process tanks;
- Emergency spill and overfill tanks that are expeditiously emptied after use;
- Surface impoundments, pits, ponds, or lagoons;

- Any UST system holding RCRA hazardous waste;
- Any equipment or machinery that contains regulated substances for operational purposes;
- Liquid trap or associated gathering lines directly related to oil or gas production or gathering operations;
- Pipeline facilities regulated under the Natural Gas Pipeline Safety Act of 1968, the Hazardous Liquid Pipeline Safety Act of 1979, or intrastate pipelines regulated under state laws comparable to the provisions of above laws;[10] and
- Any UST system that contains de minimis concentration of regulated substances.

The following are examples of deferrals from the UST regulations (and therefore may be subject to the SPCC rule):

- Wastewater treatment tank systems;
- Any UST systems containing radioactive materials that are regulated under the Atomic Energy Act of 1954;
- UST systems that are part of emergency generator systems at nuclear power generation facilities;
- Airport hydrant fuel distribution systems; and
- UST systems with field-constructed tanks.

Note that additional and/or more stringent requirements may exist in a state-approved program under 40 CFR part 281 and that they may also impact SPCC applicability. For example, a state may choose to regulate a UST used for storing heating oil for consumptive use on the premises where stored. Thus, under the state program the UST is subject to all the technical requirements of a 40 CFR part 281 program and not regulated by the SPCC rule. Inspectors should consider any state UST program approved under 40 CFR part 281 when addressing applicability issues associated with completely buried tanks.

2.6.3 Wastewater Treatment Facilities

> **§112.1(d)**
> Except as provided in paragraph (f) of this section, this part does not apply to: ..
> (6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The wastewater treatment exemption, outlined in §112.1(d)(6), excludes from the SPCC requirements facilities or parts of facilities that are used exclusively for wastewater treatment, and are not used to meet 40 CFR part 112 requirements.

Many of the wastewater treatment facilities or parts thereof are subject to the National Pollutant Discharge Elimination System (NPDES) or state-

[10] Although exempt from UST regulations, pipeline facilities regulated under the Natural Gas Pipeline Safety Act of 1968, the Hazardous Liquid Pipeline Safety Act of 1979, or intrastate pipelines regulated under state laws comparable to the provisions of above laws do not generally come within EPA's jurisdiction and are not generally regulated under the SPCC rule. See Section 2.3.2 of this document.

equivalent permitting requirements that involve operating and maintaining the facility to prevent discharges. The NPDES or state-equivalent process ensures review and approval of the facility's plans and specifications; operation/maintenance manuals and procedures; and Storm Water Pollution Prevention Plans, which may include Best Management Practice (BMP) Plans (67 FR 47068).

For the purposes of the exemption, the production, recovery, or recycling of oil is not considered wastewater treatment. These activities generally lack NPDES or state-equivalent permits and thus lack the protections that such permits provide. Additionally, the goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil, while eliminating impurities in the oil, including water, whereas the goal of a wastewater treatment facility is to purify water (67 FR 47068-69).

The exemption does not apply to a wastewater treatment facility or part thereof that is used to store oil; in that instance, the oil storage capacity must be counted as part of the total facility storage capacity (see 67 FR 47068). For example, if there is a 600-gallon storage container that contains oil removed from an exempt oil/water separator and a 1,000-gallon storage container on site, the total aboveground storage capacity for the facility would be 1,600 gallons, and the facility may potentially be regulated by the SPCC rule.

In addition, the exemption does not apply to a wastewater treatment facility or parts thereof used to meet a 40 CFR part 112 requirement, including an oil/water separator used to meet any SPCC requirement. Examples of oil/water separators that are used to meet SPCC requirements include oil/water separators used to satisfy the secondary containment requirements of §112.7(c), §112.7(h)(1), and/or §112.8(c)(2). Oil/water separators used to satisfy secondary containment requirements of the rule do not count toward storage capacity. For more information, refer to Chapter 5 of this document (Oil/Water Separators), which clarifies how the SPCC rule applies to oil/water separators.

2.7 Determination of Applicability by the Regional Administrator

Section 112.1(f) allows the Regional Administrator (RA) to require preparation of an SPCC Plan or applicable part by the owner or operator of an otherwise exempted facility that is subject to EPA jurisdiction under CWA §311(j) of the CWA. This provision is designed to address gaps in other regulatory regimes that might best be remedied by requiring a facility to have an SPCC Plan. For example, a facility may be exempted from the SPCC rule because its storage capacity is below the regulatory threshold, but the facility may have been the cause of repeated discharges as described in §112.1(b).

§112.1(f)
Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Factors the RA may consider in making a determination to require that a facility prepare an SPCC Plan include, but are not limited to, the physical characteristics of the facility; the presence of secondary containment; the discharge history of the facility; and the proximity of the facility to sensitive environmental areas such as wetlands, parks, or wildlife refuges. The RA might require an entire Plan, or might require only a partial Plan addressing secondary containment, for example, to prevent future discharges.

Sections 112.1(f)(1) through (5) describe the process for an RA to determine applicability. The process includes specific time deadlines for both the RA and the facility owner or operator, as well as requirements for the type of information and delivery method. Table 2-4 lists the deadlines and responsibilities of the RA and the facility owner or operator to appeal the RA determination that he/she must prepare an SPCC Plan.

Table 2-4. Process for an RA determination of SPCC applicability and appeals.

Deadline	Responsibility
Determination	
N/A	*Regional Administrator* (RA) makes a preliminary determination. RA must provide a written notice to the owner/operator stating the reasons why an SPCC Plan or applicable part of a Plan is needed. (§112.1(f)(1))
Within *30 days* of receipt of notice of a potential need to prepare an SPCC Plan (following preliminary determination)	*Owner/operator* must provide information and data and may consult with EPA about the need to prepare an SPCC Plan, or applicable part. (§112.1(f)(2))
Within *30 days* of receipt of data	*Regional Administrator* (RA) must make a final determination regarding whether the owner/operator is required to prepare and implement an SPCC Plan, or applicable part. (§112.1(f)(3))
Within *6 months* of final determination that facility needs a Plan	*Owner/operator* must prepare the Plan, or applicable part. (§112.1(f)(4))
Within *1 year* of final determination that facility needs a Plan	*Owner/operator* must implement the Plan, or applicable part. (§112.1(f)(4))
Appeals	
Within *30 days* of receipt of final determination that facility needs a Plan	*Owner/operator* may appeal final determination to the Administrator of EPA (and send a copy to the RA). (§112.1(f)(5))
Within *60 days* of receiving the appeal or additional information submitted by owner/operator	*The Administrator* must render a decision on the appeal. (§112.1(f)(5))

The EPA inspector plays an important role in assisting the RA in determining applicability. For example, an inspector may initially alert the RA of the need for an otherwise exempt facility to have an SPCC Plan. This may result from an inspection prompted by a citizen complaint or state referral, an oil spill, or awareness of other conditions that warrant closer examination. Following an

RA determination of the need for an SPCC Plan, the EPA inspector may perform a targeted inspection of the subject facility to verify compliance with SPCC requirements.

2.8 SPCC Applicability for Different Types of Containers

2.8.1 Bulk Storage Container

A bulk storage container, as defined in §112.2, must follow specific requirements, as described under §§112.8(c), 112.9(c), and 112.12(c) for onshore facilities. Examples of these requirements include, but are not limited to, secondary containment and fail-safe engineering, such as high level alarms, inspections, and testing.

§112.2
Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. **Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.**

Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

2.8.2 Oil-filled Equipment

The definition of bulk storage container in §112.2 specifically excludes oil-filled electrical, operating, and manufacturing equipment ("oil-filled equipment"). Therefore, oil-filled equipment is not subject to the bulk storage container requirements in §§112.8(c), 112.9(c), and 112.12(c). However, oil-filled equipment must meet the general requirements of §112.7. See generally 67 FR 47054-47055.

EPA believes it is good engineering practice to have some form of visual inspection or monitoring for this oil-filled equipment to prevent discharges as described in §112.1(b). For example, it is a challenge to comply with security requirements under §112.7(g) and countermeasures for discharge discovery under §112.7(a)(3)(iv)) without some form of inspection or monitoring program. Additionally, inspection and/or monitoring should be part of an effective contingency plan when a PE determines that secondary containment for this equipment is impracticable.

Oil-filled Operational Equipment

Oil-filled operational equipment 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. Oil-filled operational equipment does not include manufacturing equipment.

Examples of oil-filled operational equipment include hydraulic systems, lubricating systems (including lubricating systems for pumps, compressors, and other rotating equipment), gear boxes, machining coolant systems, heat transfer systems, transformers, other electrical equipment, and other systems containing oil to enable operation.

Oil-filled Manufacturing Equipment

Oil-filled manufacturing equipment is distinct from bulk storage containers in its purpose. Oil-filled manufacturing equipment stores oil only as an ancillary element of performing a mechanical or chemical operation to create or modify an intermediate or finished product. Examples of oil-filled manufacturing equipment may include reaction vessels, fermentors, high pressure vessels, mixing tanks, dryers, heat exchangers, and distillation columns. Under the SPCC rule, flow-through process vessels are generally considered oil-filled manufacturing equipment since they are not intended to store oil.[11] Additionally, there may be oil-filled operational equipment (e.g., a hydraulic unit) at this type of facility to support the manufacturing equipment (see generally 67 FR 47080). The PE reviewing and certifying the SPCC Plan should be familiar with processes taking place at the facility and should therefore determine whether a given process vessel is considered a bulk storage container or oil-filled manufacturing equipment.

In cases where a container is used for the static storage of oil within a manufacturing or processing area, the PE may determine that the container is in fact a bulk storage container. Examples of oil storage within manufacturing areas include:

- Storing an intermediate product for an extended period of time in a continuous or batch process;
- Storing a raw product prior to use in a continuous or batch process; and
- Storing a final product after a continuous or batch process.

Storage tanks and containers located at the beginning or end of a process and used to store feedstock or finished products generally are considered bulk storage containers. In cases where oil storage is incidental to the manufacturing activity or process (e.g., where it is being transformed in a flow-through process vessel) the PE may determine that the container is part of the manufacturing equipment.

2.9 Determination of Applicability of Facility Response Plans

A portion of the SPCC-regulated community may also be required to prepare a Facility Response Plan (FRP). According to §112.20, a facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit an FRP. *SPCC facilities must document whether they meet the FRP applicability criteria (40 CFR 112 Appendix C Section 3.0).* Facilities may refer to the "Flowchart of Criteria for Substantial Harm," Attachment C-I to Appendix C of 40 CFR part 112, to determine whether they need to prepare an FRP. The owner or operator must document his/her determination of whether the facility has the potential to cause

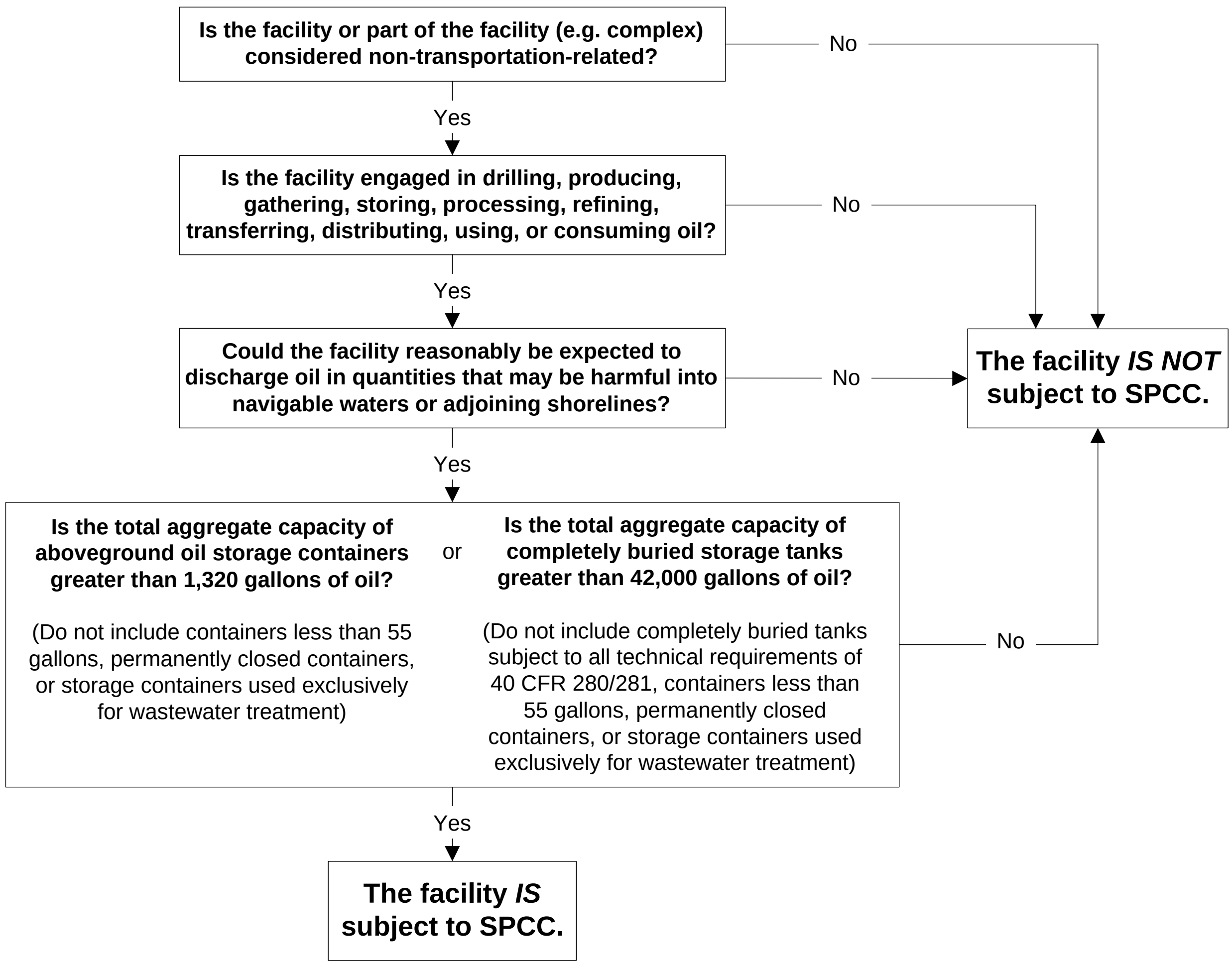
[11] The U.S. Occupational Safety and Health Administration's Process Safety Management (PSM) regulation (29 CFR 1910.119) considers a single process "any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release." The PSM definition of process includes storage tanks, while the SPCC rule considers storage tanks as bulk storage containers and not manufacturing equipment.

substantial harm by completing the Attachment C-II form, “Certification of the Applicability of the Substantial Harm Criteria,” and maintaining the certification at the facility. Attachments C-I and C-II are provided in Appendix H of this document.

2.10 Role of the EPA Inspector

The EPA inspector is responsible for gathering information and data to determine compliance with SPCC requirements for those facilities that are regulated by the SPCC rule. During an SPCC inspection, EPA inspectors will check that the measures described in the SPCC Plan are implemented at the facility and will fully document all observations and other pertinent information. The Summary of Applicability Flowchart and Applicability Assessment Worksheet, provided as Figures 2-1 and 2-2, are two quick references provided for convenience to aid inspectors in assessing whether a facility is subject to the SPCC rule.

Figure 2-1. Summary of applicability flowchart.



The intent of this flowchart is to show the general principles of applicability. Inspectors should always consult the *Code of Federal Regulations* and applicable MOUs.

Definitions (40 CFR 112.2)

Completely buried tank: Any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex: A facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Facility: Any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to the SPCC rule. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.

Permanently closed: Any container or facility for which: (1) All liquid and sludge has been removed from each container and connecting line; and (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Storage capacity: Shell capacity of the container.

Figure 2-2. Applicability assessment worksheet.

1 Is the facility or part of the facility considered non-transportation-related and engaged in one of the following activities? (Refer to Sections 2.2.4 and 2.3 of this chapter.)

Drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil.

Yes.	Go to question 2.	☐
No.	The facility is not subject to the SPCC rule.	☐

2 Could the facility reasonably be expected to discharge oil in quantities that may be harmful into navigable waters or adjoining shorelines? (Refer to Section 2.4 of this chapter.)

Note: This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge.

Yes.	Go to question 3.	☐
No.	The facility is not subject to the SPCC rule.	☐

3a Is the total aggregate capacity of aboveground oil storage containers greater than 1,320 gallons? (Refer to Sections 2.5 and 2.6 of this chapter.)

Note: Exclude containers less than 55 gallons, permanently closed containers, and storage containers used exclusively in wastewater treatment.

Yes.	The facility is subject to the SPCC rule.	☐
No.	Go to question 3b.	☐

3b Is the total aggregate capacity of completely buried storage tanks greater than 42,000 gallons? (Refer to Sections 2.5 and 2.6 of this chapter.)

Note: Do not include completely buried tanks subject to all technical requirements of 40 CFR part 280 or 281, containers less than 55 gallons, permanently closed containers, or storage containers used exclusively in wastewater treatment.

Yes.	The facility is subject to the SPCC rule.	☐
No.	The facility is not subject to the SPCC rule.	☐

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ENVIRONMENTAL EQUIVALENCE

3.1 Introduction

The environmental equivalence provision, contained in §112.7(a)(2), allows for deviations from specific requirements of the SPCC rule, as long as the alternative measures provide equivalent environmental protection. The environmental equivalence provision is a key mechanism of the performance-based SPCC rule. This flexibility enables facilities to achieve environmental protection in a manner that fits their unique circumstances. It also allows facilities to adopt more protective industry practices and technologies as they become available. The preamble to the 2002 SPCC regulation refers to certain industry standards that may be useful and can be considered in implementing the required spill prevention measures.

The facility owner or operator is responsible for the selection, documentation in the SPCC Plan, and implementation in the field of SPCC measures, including any environmentally equivalent measures. However, a Professional Engineer (PE), when certifying a Plan as per §112.3(d), must verify that these alternative methods are in accordance with good engineering practice, including consideration of industry standards, and provide environmental protection equivalent to the measures described in the SPCC rule.

In the SPCC context, equivalent environmental protection means an equal level of protection of navigable waters and adjoining shorelines from oil pollution. This can be achieved in various ways, but a facility may not rely solely on measures that are required by other sections of the rule (e.g., implementing secondary containment) to provide environmentally equivalent protection. While environmental equivalence need not be a mathematical equivalence, it must achieve the same desired outcome, though not necessarily through the same mode of operation (see 67 FR 47095).

The reason for deviating from a requirement of the SPCC rule, as well as a detailed description of how equivalent environmental protection will be achieved, must be stated in the SPCC Plan, as required in §112.7(a)(2). Possible rationales for a deviation include the owner or operator's ability to show that the particular requirement is inappropriate for the facility because of good engineering practice considerations or other reasons, and that he/she can achieve equivalent environmental protection in an alternate manner. Thus, a requirement that may be essential for a facility storing gasoline may be less appropriate for a facility storing hot asphalt cement due to differences in the properties and behavior of the two products, and the facility owner or operator may be able to implement equivalent environmental protection through an alternate technology (67 FR 47094, 47095).

As mentioned above and as is the case for other technical elements of the SPCC Plan, the PE must review the selection and implementation of environmentally equivalent measures and certify them as being consistent with good engineering practice (§112.3(d)). The selection of alternative measures may be based on various considerations, such as safety, cost, geographical constraints, the appropriateness of a particular requirement based on site-specific considerations, or other factors consistent with engineering principles.

Alternative measures, however, cannot rely solely on measures that are already required by other parts of the rule because this would allow for approaches that provide a lesser degree of protection overall. For instance, as EPA noted in a May 2004 letter to the Petroleum Marketers Association of America (PMAA), the presence of sized secondary containment for bulk storage containers, which is required under §112.8(c) and other relevant parts of the SPCC rule, does not provide, by itself, an environmentally equivalent alternative to performing integrity testing of bulk storage containers.[1] Although secondary containment reduces the risk of a discharge from primary containment (the container or tank) to navigable waters and adjoining shorelines and can increase the effectiveness of another prevention or control measure, it does not serve the purpose of integrity testing, which is to identify potential leaks or failure of primary containment before a discharge occurs.

EPA has indicated, however, that for certain shop-built containers – drums and small bulk storage containers, for example – for which internal corrosion poses minimal risk of failure, which are inspected at least monthly, and for which all sides are visible, visual inspection alone may suffice to meet the integrity testing requirements under §112.8(c)(6) or §112.12(c)(6) (67 FR 47120). These are only examples; alternative measures that provide equivalent environmental protection may also be appropriate for other site-specific circumstances. See Chapter 7, Inspection, Evaluation, and Testing, for a discussion of "environmentally equivalent" integrity testing.

The remainder of this chapter is organized as follows:

- **Section 3.2** summarizes substantive SPCC requirements subject to the environmental equivalence provision.
- **Section 3.3** clarifies certain policy areas and provides examples of deviations based on the implementation of environmentally equivalent alternatives.
- **Section 3.4** describes the role of the EPA inspector in reviewing deviations based on environmental equivalence.

[1] See EPA letter to Daniel Gilligan of PMAA, available in Appendix H of this guidance, or at http://www.epa.gov/oilspill/pdfs/PMAA_letter.pdf.

3.2 Substantive Requirements Subject to the Environmental Equivalence Provision

Section 112.7(a)(2) of the SPCC rule allows deviations for most *technical* elements of the rule (§§112.7 through 112.12), with the exception of the secondary containment requirements of §§112.7(c) and 112.7(h)(1), as well as in relevant paragraphs of §§112.8, 112.9, 112.10, and 112.12. Chapter 4 of this document discusses these secondary containment requirements in detail.

§112.7(a)(2)
Comply with all applicable requirements listed in this part. Your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), ... where applicable to a specific facility, **if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure**. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), ... you **must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection**. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in §112.4(d) and (e).

Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

In addition to secondary containment requirements, deviations are not allowed for certain provisions of §112.7, including the general recordkeeping and training provisions. Additionally, deviations are not allowed for the administrative provisions of the rule, §§112.1 through 112.5. The SPCC rule already provides flexibility for the format of records that need to be maintained at the facility by allowing the use of ordinary and customary business records. Personnel training (§112.7(f)) and a discussion of conformance with any applicable, more stringent state rules (§112.7(j)) are essential for all facilities.

Table 3-1 presents a list of the SPCC requirements eligible for consideration for environmental equivalence.

Table 3-1. Requirements eligible for environmental equivalence, by facility type.

Facility Type/Provision	Section(s): Petroleum Oils and Non-Petroleum Oils	Section(s): Animal Fats and Vegetable Oils
All regulated facilities		
Security	112.7(g)	
Loading and unloading racks	112.7(h)(2) and 112.7(h)(3)	
Brittle fracture evaluation	112.7(i)	
Onshore facilities		
Facility drainage/undiked areas	112.8(b), 112.9(b), 112.10(b) and 112.11(b)	112.12(b)
Type of bulk storage container	112.8(c)(1) and 112.9(c)(1)	112.12(c)(1)
Drainage of diked areas	112.8(c)(3)	112.12(c)(3)
Corrosion protection of buried storage tanks	112.8(c)(4) and 112.8(c)(5)	112.12(c)(4) and 112.12(c)(5)
Integrity testing and/or container inspection	112.8(c)(6) and 112.9(c)(3)	112.12(c)(6)
Monitoring internal heating coils	112.8(c)(7)	112.12(c)(7)
Engineering of bulk container installation (overfill prevention)	112.8(c)(8) and 112.9(c)(4)	112.12(c)(8)
Monitoring treatment/disposal facilities	112.8(c)(9) and 112.9(d)(2)	112.12(c)(9)
Removal of oil in diked areas and production facility drainage	112.8(c)(10)	112.12(c)(10)
Piping	112.8(d), 112.9(d)(1), and 112.9(d)(3)	112.12(d)
Oil drilling and workover facilities		
Facility drainage/undiked areas (rig position)	112.10(b)	N/A
Blowout prevention and well control system	112.10(d)	N/A
Offshore facilities		
Offshore oil drilling and workover facilities	112.11(b) through 112.11(p)	N/A

3.3 Policy Issues Addressed by Environmental Equivalence

This section provides additional guidance on environmentally equivalent measures for specific requirements on which the regulated community has raised questions. The examples discussed below are meant to clarify *selected* rule provisions and to illustrate how deviations based on environmentally equivalent alternatives may be implemented. Other circumstances not discussed here may also be addressed through the use of environmentally equivalent measures. The examples in this section address environmental equivalence as it relates to:

Section 3.3.1	Security
Section 3.3.2	Facility Drainage
Section 3.3.3	Corrosion Protection and Leak Testing of Completely Buried Metallic Storage Tanks
Section 3.3.4	Overfill Prevention
Section 3.3.5	Piping
Section 3.3.6	Evaluation, Inspection, and Testing

Although briefly discussed in Section 3.3.6, deviations from inspection and testing requirements based on environmental equivalence are discussed in greater detail in Chapter 7 of this guidance document.

3.3.1 Security

Section 112.7(g) of the SPCC rule outlines security requirements for facilities, including fencing and lighting, and the use of control equipment and procedures. The security requirements are meant to prevent discharges of oil, as defined in §112.1(b), that could result from acts of vandalism or other unauthorized access to oil-filled containers or equipment. Note that unlike other provisions under §112.7, the security provisions in paragraph (g) *do not apply to oil production facilities.*

A facility owner or operator may achieve the security objective through alternative measures, as appropriate for the facility, if these measures provide environmental protection equivalent to the measures described in the SPCC rule.

As described in §112.7(a)(2), if alternative security measures are used, the Plan must state the reasons for nonconformance, and provide a description of the alternative measures, how they are implemented, and how they will achieve environmentally equivalent protection to prevent a discharge as described in §112.1(b). This description may include a discussion of how these measures help deter vandals, prevent unauthorized access to containers and equipment that could be involved in an oil discharge, or are otherwise equivalent to the SPCC security requirements.

§112.7(g)
Security (excluding oil production facilities).
(1) Fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended.
(2) Ensure that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status.
(3) Lock the starter control on each oil pump in the "off" position and locate it at a site accessible only to authorized personnel when the pump is in a non-operating or non-standby status.
(4) Securely cap or blank-flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time. This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure.
(5) Provide facility lighting commensurate with the type and location of the facility that will assist in the:
(i) Discovery of discharges occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.); and
(ii) Prevention of discharge occurring through acts of vandalism.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Fencing. Section 112.7(g)(1) requires that owners or operators *fully* fence the facility and/or guard gates when the facility is not in production or attended. Two examples of scenarios discussed in a letter to PMAA[2] regarding environmentally equivalent alternatives to fencing the entire footprint of a facility are discussed below.

Figure 3-1. Fencing around storage area.

Case #1 – Fencing areas directly involved in oil handling, processing, and storage. [Demonstrates environmental equivalence.] For certain facilities where oil-filled containers and equipment are located within discrete areas, securing only those parts of the facilities that could be involved in an oil discharge may provide an effective level of protection. This alternative may be preferable for very large facilities where fencing the entire footprint of the facility would require installing and monitoring very long lengths of fencing. In such cases, installing a fence around the discrete areas of a facility where oil containers are located (Figure 3-1), or around the equipment needed to operate such containers (Figure 3-2), may adequately deter vandals or prevent access by unauthorized personnel, and thus may provide environmental protection equivalent to the §112.7(g)(1) requirement to fully fence the facility to prevent a discharge as described in §112.1(b) from these containers. Note that in the second case (i.e., where a fence is placed only around the equipment used to operate containers), security measures may also be required around the containers themselves, or other equipment and appurtenances connected to the containers.

Figure 3-2. Fencing around a dispenser pump.

Case #2 – Placing master disconnect panel controlling power to all pumps, appurtenances (which could result in a discharge such as from a bottom water drain), and containers within an enclosed "pump house." [Does not demonstrate environmental equivalence.] Certain facilities may equip an enclosed pump house with a master disconnect switch that cuts off electrical power to the pumps when the facility is unattended. Such disconnect may provide equivalent protection for the pumps and associated equipment that require power to operate and would meet the §112.7(g)(3) requirement to lock starter controls on oil pumps in the "off" position and restrict access to

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[2] Available on EPA's Web site at http://www.epa.gov/oilspill/pdfs/PMAA_letter.pdf or in Appendix H of this guidance.

authorized personnel only. However, if containers, piping, or appurtenances are also present, the disconnect would not restrict access to equipment that can be operated without electrical power. Therefore, it would not provide environmental protection equivalent to fencing. Additional security measures would therefore be required for equipment that can be operated without electrical power.

Lighting. Section 112.7(g)(5) states that facilities must provide lighting to assist in the discovery of discharges occurring during hours of darkness and help prevent discharges caused by acts of vandalism. Note that the rule requires lighting that is "commensurate with the type and location of the facility." Thus, for unattended facilities that are located away from inhabited areas (for example, farm fields or certain isolated facilities) appropriate lighting may consist of lights that are turned on intermittently. For example, lighting that uses motion-activated detectors may be an appropriate means of meeting the lighting requirements, while avoiding undue attention to the presence of oil containers. Alternatively, an environmentally equivalent approach may combine an alarm system that detects the presence of trespassers, with portable lights used to perform regular rounds of the facility. Whatever approach the owner or operator implements, the SPCC Plan should discuss how lighting provided at the facility is adequate for the type and location of the facility, or how the facility is achieving environmentally equivalent protection through other means.

The security requirements may also be met through other means, depending on facility-specific circumstances. For example, a facility that is attended by a security guard on a 24-hour basis may use closed-circuit cameras to detect and investigate unauthorized access to unfenced portions of the facility. In another example, a facility such as an electrical substation that is remotely located with limited access and monitored through use of a Supervisory Control and Data Acquisition (SCADA) system, may provide environmentally equivalent security by its configuration since the site's inaccessibility may be considered a powerful deterrent to unauthorized access and the SCADA system serves to detect oil discharges remotely without requiring lighting to assist visual detection.

3.3.2 Facility Drainage

Section 112.8(b) describes facility drainage provisions for onshore facilities that handle petroleum oils and non-petroleum oils other than animal fats and/or vegetable oils. Section 112.12(b) provides the corresponding requirements for facilities that handle animal fats and/or vegetable oils. The description of the design capacity of facility drainage systems is also addressed under §§112.7(a)(3) and 112.7(b).

Diked Storage Area Provisions

The objective of the drainage requirements is to provide design specifications for the secondary containment systems employed at the facility to prevent oil-contaminated water from escaping the facility and becoming a discharge as described in §112.1(b).

> **§§112.8(b) and 112.12(b)** *Facility Drainage*.
> (1) Restrain drainage from **diked storage areas** by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.
> (2) Use valves of manual, open-and-closed design, for the drainage of **diked areas**. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section
> (3) Design facility drainage systems from **undiked areas** with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.
> (4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.
> (5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.
>
> Note: The above text is an excerpt of the SPCC rule. Emphasis added. Refer to 40 CFR part 112 for the full text of the rule.

Sections 112.8(b)(1) and 112.8(b)(2) specify requirements for the design of drainage systems for dikes used as a means of secondary containment. (See Chapter 4 for a more detailed discussion of secondary containment requirements.)

Under §112.8(b)(1) and 112.8(b)(2), the SPCC regulation requires that when the facility owner/operator uses valves to drain a dike or berm, the valves must be of manual, open-and-closed design, unless the facility drainage system is equipped to control oil discharges. The facility owner or operator, and the PE certifying a Plan, may consider alternative technologies specifically engineered to prevent oil from escaping the facility containment and drainage control system, while normally allowing drainage of uncontaminated water. When implemented and maintained properly, such systems may provide environmental protection equivalent to using a manually operated valve and visually monitoring discharge from dikes. Certain valves will automatically shut off upon detecting oil. These types of systems have been installed at electrical substations, for example, to drain uncontaminated rainwater under normal conditions, while also preventing oil from escaping the containment system in the event of a discharge from transformers or other oil-filled electrical equipment. The material expands upon contact with oil, effectively plugging the drainage system. The valve is not actuated, but rather the drainage system becomes plugged upon contact with the oil, thus providing an equivalent measure of environmental protection.

To be most effective, however, EPA recommends that the systems have a fail-safe design to automatically prevent any oil from escaping the containment area in the event of a system malfunction. The PE certifying the Plan should verify the adequacy of the system to prevent oil discharges to navigable waters and adjoining shorelines, considering factors such as the type of oil and its compatibility with the system selected, the amount of precipitation, maintenance requirements, flow paths, and proximity to navigable waters. The SPCC Plan should also describe procedures for maintaining these systems and checking their effectiveness by routine inspections and inspections following heavy rain events to ensure that they are operational.

Undiked Storage Area Provisions

Sections 112.8(b)(3) and 112.8(b)(4) specify performance requirements for systems used to drain undiked areas with the potential for a discharge. These two provisions apply only when the facility chooses to use a facility drainage system to meet general secondary containment requirements under §112.7(c) or a more specific requirement under §112.8(c), §112.9(c), §112.10(c) or §112.12(c). Where the facility drainage cannot be engineered as described in §112.8(b)(3), the SPCC rule requires that the facility equip the final discharge points of all ditches within the facility with a diversion system that would, in the event of a discharge, retain the oil at the facility as described in §112.8(b)(4). Additional requirements in §112.8(b)(5) pertain more specifically to engineering multiple treatment units for these drainage systems.

For parts of a facility that could be involved in a discharge and where secondary containment requirements are met through the use of a drainage system rather than a dike or berm, the SPCC rule generally requires facility drainage to flow into a system, such as a pond, lagoon, or catchment basin, designed to retain the oil or return it to the facility. Other measures may be implemented to achieve the drainage control objective, based on good engineering practice and subject to PE review and certification. For example, directing undiked facility drainage into an impoundment system located within a neighboring facility may be considered equivalent to keeping it within the facility's confines (as required in §112.8(b)(4)) if the neighboring facility owner has agreed to allow use of the impoundment and as long as the impoundment is designed and managed such that it is capable of handling a potential discharge from both facilities before it becomes a discharge as described in §112.1(b).

Alternatively, a facility owner or operator may engineer the facility drainage system intended to meet general secondary containment requirements of §112.7(c) to flow into an oil/water separator designed to remove oil resulting from facility operations. Chapter 5 of this guidance document describes the requirements, depending on their function, that apply to oil/water separators at SPCC-regulated facilities. The SPCC Plan should discuss how the oil/water separator provides environmental equivalence, and any procedures necessary to maintain proper operating conditions and the effectiveness of the system (such as maintenance of the filtration systems). Note that the oil/water separator should be designed to handle the anticipated flow rate and volumes of oil and water. Furthermore, the oil/water separator should be inspected or checked periodically (including after heavy rain events) to ensure that it is working effectively and that it is not holding significant quantities of oil for extended periods of time. For the oil/water separator to provide equivalent environmental protection under §112.8(b)(3) and (b)(4), the PE must verify that the oil/water separator is adequately designed and operated to effectively retain any discharge as described in §112.1(b).

Drainage at Production Facilities

> **§112.9(b)**
> *Oil production facility drainage*.
> (1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in §112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under §112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in §112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.
> (2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Similar deviations from SPCC drainage control requirements are possible for other types of facilities. Section 112.9(b), for example, outlines drainage requirements for production facilities. They include sealing dike drains or drains of equivalent measures required under §112.7(c)(1) for tank batteries and separation and treating areas at all times except when draining uncontaminated rainwater. The PE may specify alternative measures, such as the technologies described above for electrical substations, that would provide equivalent environmental protection by retaining oil within the diked area in the event of a discharge. (See the above discussion in Section 3.3.2, Diked Storage Area Provisions.) Here also, the Plan must describe the measure in detail and how it provides environmentally equivalent protection when implemented in the field, as required by §112.7(a)(2).

Wherever a facility owner or operator chooses to deviate from the drainage control provisions by using an alternative measure that provides equivalent environmental protection, the SPCC Plan must state the reasons for nonconformance and describe the alternative measure in detail, including how it achieves equivalent environmental protection when implemented (§112.7(a)(2)).

3.3.3 Corrosion Protection and Leak Testing of Completely Buried Metallic Storage Tanks

> **§§112.8(c)(4) and 112.12(c)(4)**
> Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Section 112.8(c) describes requirements that apply to bulk storage containers at facilities that store, use, or process petroleum and other non-petroleum oils. Similar provisions are included in §112.12(c) for facilities that store, use, or process animal fats and/or vegetable oils. The various subparagraphs under these sections address requirements that apply to different types of bulk storage containers, appurtenances, and related activities.

Subparagraph (c)(4) requires that facility owners or operators protect buried metallic storage tanks from corrosion and regularly perform leak test on the tanks. Completely buried storage tanks are exempted from SPCC requirements, as provided in §112.1(d)(2)(i), when the tanks are subject to all of the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281. Tanks subject to 40 CFR part 280 or a state program approved under 40 CFR part 281 must follow those requirements. Completely buried tanks that are subject to SPCC requirements must meet the provisions outlined in §112.8(c)(4) or §112.12(c)(4).

Completely buried tanks subject to the SPCC rule include, but are not limited to, tanks with capacity of 110 gallons or less, heating oil tanks, and tanks located inside basements or tunnels. Corrosion protection and leak detection for completely buried tanks that meet the corresponding (corrosion protection and leak detection) testing requirements of 40 CFR part 280 or 40 CFR part 281 are considered environmentally equivalent to §§112.8(c)(4) and 112.12(c)(4). See Chapter 2 for more information on the applicability of the SPCC rule to completely buried storage tanks.

3.3.4 Overfill Prevention

Sections 112.8(c)(8) and 112.12(c)(8) require that each container installation be engineered to avoid discharges during filling activities. At least one of the following systems is required:

- High level alarm with audible or visual signal;
- High liquid level pump cutoff device;
- Direct audible or code signal communication between container gauger and pumping station;
- Fast response system for determining the liquid level, such as digital computer, telepulse, or direct vision gauge, provided that someone is present to monitor gauges and the overall filling operation; and
- Regular tests of liquid level sensing devices to ensure proper operation.

> **§§112.8(c)(8) and 112.12(c)(8)**
> Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:
> (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.
> (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.
> (iii) Direct audible or code signal communication between the container gauger and the pumping station.
> (iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.
> (v) You must regularly test liquid level sensing devices to ensure proper operation.
>
> ~~NOTE: The above text is an excerpt of the SPCC rule.~~
> Refer to 40 CFR part 112 for the full text of the rule.

The selection of an overfill prevention system should be based on good engineering practice (§112.7 introductory paragraph), considering methods that are appropriate for the types of activities and circumstances. While an audible/visual alarm or fast response system may be appropriate for a large, stationary storage tank, a simpler overfill prevention system may be appropriate for a small tank. In certain cases (e.g., for relatively small containers that can be readily monitored), a filling procedure can be established in place of physical overfill prevention devices, which could be considered environmentally equivalent. The procedure must be adequate to prevent a discharge (as required under §112.8(c)(8)) when considering factors such as the container size; filling rate;

ability of the person performing the filling operation to continuously monitor product level in the container; reaction time; capacity of the secondary containment and/or catchment basin; and proximity of the tank to floor drains, sumps, and other means through which oil could escape. For example, a filling procedure for a small container may involve placing a drain cover on any floor drain, ensuring that valves used to control drainage from the secondary containment are closed or that sorbent material has been deployed around the container area, verifying that the container that will receive the product has sufficient free capacity, and visually monitoring the product level throughout the transfer operation.

In cases where a facility owner or operator uses an overfill prevention approach other than the systems described in the SPCC rule, the Plan must describe the approach and how it provides environmentally equivalent protection (§112.7(a)(2)). Where the alternative approach relies on procedures instead of, or in addition to, a physical device, the Plan should clearly describe the procedures and facility personnel involved in filling operations should be able to demonstrate an understanding of the procedures and proper field implementation. As part of the description of the environmentally equivalent measure required under §112.7(a)(2), the PE may reference other facility documents in the SPCC Plan which discuss relevant established Best Management Practices (BMPs), pollution prevention training and/or procedures in more detail, rather than restating this information in the SPCC Plan. Additional supporting documentation should be on-site and available for review during an inspection.

3.3.5 Piping

Requirements that apply to piping at onshore facilities that handle petroleum oils are described in §112.8(d). Similar requirements are described in §112.12(d) for piping at facilities that handle animal fats and/or vegetable oils.

These provisions of the SPCC rule require that facilities generally protect buried piping against corrosion; cap or blank-flange the terminal connection of piping that is not in service; design pipe supports to minimize abrasion and corrosion; and regularly inspect all aboveground valves, piping, and appurtenances. The rule also requires integrity and leak testing of all piping at the time of installation, modification, construction, relocation, or replacement. Finally, the rule

§§112.8(d) and 112.12(d)
Facility-transfer operations, pumping, and facility process.
(1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.
(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.
(3) Properly design pipe support to minimize abrasion and corrosion and allow for expansion and contraction.
(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.
(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

NOTE: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

requires warning all vehicles entering the facility to ensure that they will not endanger aboveground piping (or other oil transfer operations). Types of facility piping addressed by this provision include, but are not limited to:

- Transfer piping to and from bulk storage containers, both aboveground and buried;
- Transfer piping associated with manufacturing equipment, both aboveground and buried; and
- Piping associated with operational equipment.

An EPA study into the causes of oil releases indicates that the operational piping portion of an underground storage tank system is twice as likely as the tank portion to be the source of a discharge.[3] Piping failures are caused equally by poor workmanship, improper installation, corrosion, or other forms of deterioration. The SPCC piping requirements aim to prevent oil discharges from aboveground or buried piping due to corrosion, operational accidents, or collision. Accordingly, equivalent environmental protection may be achieved through alternative measures that reduce or eliminate the risks of corrosion to buried piping or the risk of damage to aboveground piping.

The following sections discuss examples of deviations from prevention requirements related to corrosion and other types of piping damage.

Protecting Buried Piping from Corrosion Damage

EPA recommends that a PE certifying an SPCC Plan consult appropriate industry standards (consulting a qualified corrosion professional may also be appropriate) when evaluating the adequacy of cathodic protection and corrosion prevention systems at the facility. Where the PE determines that cathodic protection of new piping is not appropriate considering site-specific conditions, facility configuration, and other engineering factors (e.g., where the installation of a corrosion system would accelerate corrosion of existing unprotected equipment), the PE may specify other measures to assess and ensure the continued fitness-for-service of piping.

For example, the owner or operator of a facility could, instead of cathodically protecting underground piping, use double-wall piping combined with an interstitial leak detection system (67 FR 47123). The SPCC requirement (cathodic protection) averts discharges by preventing container corrosion, while the alternative method (leak detection system and double-wall piping) detects and contains leakage so it may be addressed before it can become a discharge as described in §112.1(b).

Alternatively, the facility owner or operator may implement a comprehensive monitoring, detection, and preventive maintenance program for piping and appurtenances where effective cathodic protection is not reasonably achievable to detect and address potential discharges. The

[3] "Causes of Release from Underground Storage Tank Systems: Attachments," September 1987, EPA 510-R-92-702.

PE that certifies the Plan should develop and/or review such a program, which may combine inspection, monitoring and leak testing elements with preventive maintenance, contingency measures, and recordkeeping. Examples of these elements are outlined for piping systems in API Standard 570, “Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems,”

Table 3-2 summarizes key elements of an API-570 inspection program as they relate to the evaluation of buried piping that is not cathodically protected (refer to Chapter 7 of this document for an overview of API-570). Such a program provides a means of assessing the suitability of piping to contain oil and to predict potential failures prior to their occurrence.

Table 3-2. Summary of inspection and leak testing elements of an API-570 program as they apply to unprotected buried piping (refer to the full text of API 570 for details).

Inspection and Leak Testing Elements	Summary
Pipe-to-Soil Potential Survey	Conduct pipe-to-soil potential survey along the pipe route to assess corrosion potential at a five-year interval. Excavate sites where active corrosion cells are located to determine the extent of corrosion damage.
Pipe Coating Holiday* Survey	Conduct pipe coating holiday survey as needed based on results of other evaluations.
Soil Corrosivity	Perform soil corrosivity evaluation at a five-year interval for piping buried in lengths greater than 100 feet.
External and Internal Inspection Intervals	Determine external condition of buried piping that is not cathodically protected by pigging or by excavating according to frequency indicated in API-570 standard table. Adjust inspection of internal corrosion of buried piping based on results of internal inspections of aboveground portion.
Leak Testing Intervals	Alternatively, or in addition to inspection, perform leak testing with pressure at least 10 percent greater than maximum operating pressure at an interval half that of inspections indicated in the standard for buried piping that is not cathodically protected. Alternatively, perform temperature-corrected volumetric or pressure test methods, or use acoustic emission examination and addition of tracer fluid.

* **“Holiday”** means any discontinuity, bare, or thin spot in a painted area.

Where a piping inspection and testing program is used to provide environmental protection equivalent to cathodic protection, its scope and frequency should be developed and/or reviewed by the PE certifying the Plan to be in accordance with good engineering practice, considering industry standards. For facilities with shorter lengths of piping or where the distance to receiving waters or adjoining shorelines is greater, the program may emphasize certain elements over others, such as frequent leak testing of buried piping. Chapter 7 provides references to industry standards that specifically discuss leak testing, including API Recommended Practice 1110, “Pressure Testing of Liquid Petroleum Pipelines.” However, since leak testing only detects leaks, rather than predicting them, good engineering practice would suggest that testing should occur at a greater frequency than would otherwise be required if other prevention systems, such as cathodic protection and coatings, were in place.

If alternative measures are used to meet the SPCC corrosion protection requirements, §112.7(a)(2) requires that the Plan state the reasons for nonconformance and explain how the alternative measures provide environmental protection equivalent to coating and cathodically protecting new piping. In order to be considered equivalent environmental protection to cathodic protection, EPA suggests that a comprehensive inspection and preventive maintenance program needs to be implemented to effectively detect and address piping deterioration before it can result in a discharge as described in §112.1(b). The inspector should verify that the alternative method is described in detail in the Plan, and that the Plan specifies the scope and frequency of tests and inspections and/or refers to the relevant industry standards. The EPA inspector should also review records maintained under normal business practice that document the tests and inspections.

Preventing Physical Damage to Aboveground Piping

Warnings to vehicles entering the facility may be given verbally, posted on signs, or other appropriate means. Alternatively, protecting the equipment from the possibility of a collision by installing fencing, barriers, curbing or other physical obstacles may be considered to provide equivalent environmental protection. Whatever method is implemented at the facility, it must be properly documented in the SPCC Plan in accordance with §112.7(a)(2).

3.3.6 Evaluation, Inspection, and Testing

The SPCC rule sets requirements for the evaluation, inspection, and testing of various parts of a facility that could be involved in a discharge. The requirements are described in Chapter 7 of this guidance document.

The evaluation, inspection, and testing requirements are aimed at detecting oil leaks, spills, or other potential integrity problems before they can result in a discharge as described in §112.1(b). The rule provides flexibility in the manner in which the evaluations, inspections, and tests are performed by allowing the use of methods consistent with good engineering practice, as determined by the PE certifying the Plan, considering industry standards.

While the rule describes the general nature and expected scope for evaluations, inspections, and tests, the requirements are eligible for the environmental equivalence provisions under §112.7(a)(2), and a facility owner or operator can therefore implement alternative measures if he/she states in the Plan the reason for nonconformance and describes in detail the alternative measures and how the alternative measures provide environmental protection equivalent to that provided by the required evaluation, inspection, or test.

The use of environmental equivalence for evaluation, inspection, and testing requirements is discussed in Chapter 7 of this guidance document, along with the background information on relevant regulatory requirements, industry standards, and recommended practices, which is necessary for discussing alternatives to these provisions.

3.4 Review of Environmental Equivalence

Any substitution of a prevention and control measure required by the rule with an environmentally equivalent measure must be documented in the SPCC Plan, as required in §112.7(a)(2). This documentation is reviewed by the EPA inspector during inspections to ensure that the facility is in compliance with the regulatory requirements.

The EPA inspector may refer to the list in Table 3-3 at the end of this chapter to identify and review technical rule requirements that are eligible for deviation through the environmental equivalence provision.

Environmentally equivalent measures are not available for the general and specific secondary containment provisions of the SPCC rule. Instead, §112.7(d) provides a separate means of deviating from secondary containment requirements through a determination of impracticability when secondary containment is not practicable. Environmentally equivalent deviations are also not available for the general recordkeeping and training provisions in §112.7. The rule already provides flexibility in the manner of recordkeeping by allowing the use of ordinary and customary business records. The rule also does not specify how the training of oil-handling personnel is conducted, or whom to designate as a person accountable for oil discharge prevention (§112.7(f)).

3.4.1 SPCC Plan Documentation

For each environmental equivalent measure, the SPCC Plan must state the reason for nonconformance within the relevant section of the Plan, as required in §112.7(a)(2). The Plan must also describe the alternative measure in detail and explain how the measure provides environmental protection equivalent to that provided by the SPCC provision.

The facility owner or operator must ensure that alternative measures are adequate for the facility; that equipment, devices, or materials are designed for the intended use; and that the equipment, devices, or materials are properly implemented and maintained to provide effective environmental protection (§§112.3(d) and 112.7). EPA emphasizes that the environmental equivalence provision is not intended to be used as a means to avoid complying with the rule or simply as an excuse for not meeting requirements the owner or operator believes are too costly. The alternative measure chosen must represent good engineering practice and must achieve environmental protection equivalent to the SPCC rule requirement as required in §112.7(a)(2). Technical deviations, like other substantive technical portions of the Plan requiring the application of engineering judgement, are subject to PE certification (67 FR 47095).

In cases where operational procedures are used as environmentally equivalent alternatives to SPCC requirements, the Plan must state the reasons for nonconformance and describe in detail the alternate methods and how this will achieve equivalent environmental protection (§112.7(a)(2)). The description should provide the details of how the procedures are implemented at the facility, including detailing the steps involved in each activity, required equipment, personnel training, and records that need to be maintained to document and verify implementation. Records that would be kept as part of usual and customary business practices are generally considered acceptable forms of documentation, but should be referenced in the Plan and available for an inspector's review during an inspection. These records must be maintained with the Plan for a period of three years (§112.7(e)). Certain industry standards, for example API Standards 570 and 653, may specify that records are to be maintained for more than three years.

The two examples below illustrate documentation of environmentally equivalent measures that may be provided in a hypothetical SPCC Plan.

Example #1: Documentation of Environmentally Equivalent Protection for Integrity Testing (§112.8(c)(6)) – Tank Elevated off the Ground

Bulk Storage Tanks – 40 CFR 112.8(c)(6)

ABC Oil is deviating from the integrity testing provision of §112.8(c)(6) for storage tank #3; based on good engineering practice after considering the tank installation and alternative measures, the requirements of Steel Tank Institute (STI) Standard SP-001, and alternative measures implemented by the facility. Tank #3 is a 4,500-gallon UL142 aboveground horizontal tank elevated on built-in saddles, and all sides of the tank are visible. Tank #3 is not insulated, and the outside surface of the tank shell can therefore be observed on an ongoing basis. The tank is located over a concrete floor, which functions as a release prevention barrier and has properly sized containment in accordance with §112.8(c)(2). Under SP-001, the tank is considered a Category 1 tank (aboveground storage tank with spill control and with continuous release detection method) and therefore requires periodic inspection of the tank. The personnel performing these inspections are knowledgeable of storage facility operations, characteristics of the liquid stored, the type of aboveground storage tank and its associated components. Facility personnel perform monthly and annual inspections, as described in Section 3.4 of the Plan and in accordance with the provisions and the checklists presented in SP-001. The scope of inspections and procedures is covered in the training provided to employees involved in handling oil at the facility. The routine inspections focus specifically on detecting any change in conditions or signs of product leakage from the tank, piping system, and appurtenances.

In accordance with inspection procedures outlined in this Plan, if signs of leakage or deterioration from the tank are observed by facility personnel, the tank is to be inspected by a tank inspector certified by the American Petroleum Institute or STI to assess its suitability for continued service, according to SP-001.

Facility personnel who conduct inspections are qualified in accordance with SP-001. The tank's physical configuration, combined with monthly and annual inspections, ensures that any small leak that could develop in the tank shell will be detected before it can become significant, escape secondary containment, and reach the environment. This approach provides environmental protection equivalent to the non-destructive shell evaluation component of integrity testing required under §112.8(c)(6) since it provides an appropriate and effective means of assessing the condition of the tank and its suitability for continued service.

Example #2: Documentation of Environmentally Equivalent Protection for Drainage of Diked Areas (§112.8(b)(1) and §112.8(b)(2))

Facility Drainage – 40 CFR 112.8(b)(1) and 40 CFR 112.8(b)(2)

The dike structure in Area A contains three oil-filled transformers (see list of equipment and oil storage capacity in the Plan). The dike is equipped with a [TRADEMARK] drain shutoff system specifically engineered to prevent oil from escaping the containment structure while allowing water to flow through during normal conditions. The system uses hydrophobic and oleofilic material to block the flow of water upon reacting to the presence of oil. Documentation of the performance of this system and the manufacturer's suggested replacement interval are maintained as an appendix to this Plan.

Employee supervision is not required under regular operating conditions to drain uncontaminated rainwater that has accumulated in the dike. This method deviates from the rule requirements, which generally require that a dike be drained under direct visual supervision using valves of manual, open-and-closed design.

The diked area is inspected monthly by facility personnel as part of the scheduled inspection of bulk storage tanks, as per the checklist presented in Appendix A. This inspection includes looking for accumulation of water and presence of oil within the diked area, and examining, and replacing, as warranted, the silt filter and [TRADEMARK] elements. Facility personnel also examine the system, and replace components as needed, within 48 hours of any rainfall greater than 3 inches. Replacement of the silt filter and/or other elements of the [TRADEMARK] system are noted on the monthly inspection sheets, which are maintained at the facility for three years. All maintenance is performed following the manufacturer's specifications. Maintenance requirements are covered in the employee training program.

In the event that the filter clogs and storm water accumulates within the diked area, facility personnel will follow required procedures for dike drainage as follows:

1) Inspect the retained rainwater to ensure that it does not contain oil (it will not cause a discharge to [Insert Name of Waterbody] or adjoining shorelines which is the nearest navigable water to the facility).
2) Open the bypass valve, allow drainage, and reseal the valve.
3) Record event in log.

The above examples provide a sufficient level of detail to allow the EPA inspector to understand what the facility is doing to meet the objectives of the SPCC rule with regard to the given provision, and to verify implementation of the measure(s) in the field. A Plan that simply notes the use of an alternative measure without supporting descriptions would not be considered sufficient. An example of *insufficient* documentation is given below.

Example #3: *Insufficient* Documentation of Environmentally Equivalent Protection for Integrity Testing (§112.8(c)(6))

Bulk Storage Tanks – 40 CFR 112.8(c)(6)
No integrity testing is needed on tank 3A as this is an elevated shop-built storage tank and all sides are visible. The outside of the tank is to be inspected on a regular schedule.

In contrast to the two previous examples, Example #3 does not provide sufficient detail to ascertain whether the approach provides environmentally equivalent protection. In particular, it does not describe how environmental equivalence is achieved, who performs the inspection, what is inspected, and at what frequency.

3.4.2 Role of the EPA Inspector

Like other technical aspects of the SPCC Plan, the selection and implementation of environmentally equivalent measures must be reviewed by the certifying PE for consistency with good engineering practice (§112.3(d)). For each case where an environmentally equivalent measure is used, the EPA inspector should verify that the Plan includes:

- The reasons for nonconformance;
- A detailed description of the alternative measure; and
- An explanation describing how the alternative measure provides protection that is environmentally equivalent.

Additionally, the inspector should verify implementation of the alternative measure in the field.

The explanation describing how an alternative measure achieves environmental equivalence does not need to demonstrate "mathematical equivalency," but the alternative measure does need to provide equivalent protection of the environment against a discharge as described in §112.1(b). The Plan should describe how the alternative measure prevents, controls, or mitigates a discharge, as well as the procedures or equipment used to implement the alternative measure and ensure its continued effectiveness, particularly in terms of the measure's practical impacts on field operations, employee training, monitoring, and equipment maintenance.

By certifying an SPCC Plan, a PE attests that the Plan has been prepared in accordance with good engineering practice, that it meets the requirements of 40 CFR part 112, and that it is adequate for the facility. EPA encourages innovative techniques for preventing discharges, but these techniques need to effectively protect the environment. EPA believes that, in general, PEs will seek to protect themselves from liability by certifying only measures that do provide equivalent environmental protection (67 FR 47095). If alternative measures are certified by a PE as being environmentally equivalent, are properly documented, and are appropriately implemented in the field, they should generally be considered acceptable by EPA regional inspectors.

The inspector should note whether the alternative measures meet the standards of common sense, and appear to agree with recognized industry standards or, where such standards are not used, are in accordance with good engineering practice. The inspector should assess implementation of the alternative measures, including whether they appear to have been altered or differ from the measures described in the Plan and certified by the PE, have not been implemented correctly, require maintenance that has not occurred, appear to be inadequate for the facility, or otherwise do not meet the overall oil spill prevention objective of the SPCC rule.

If the inspector questions the appropriateness of alternative measures, he/she should fully document all observations and other pertinent information for further review by the regional staff. Follow-up action by the EPA inspector may include requesting additional information from the facility owner or operator on the implementation of the equivalent measure. The EPA Regional Administrator retains the authority to require amendment for deviations, as he/she can for any other part of a Plan. If the Regional Administrator determines that the measures described in the SPCC Plan do not provide equivalent environmental protection, then the procedures for requiring a Plan amendment under §112.4(d) and (e) and/or an enforcement action may be initiated as deemed appropriate.

Table 3-3 lists the SPCC provisions that may be met through environmentally equivalent measures, and provides guidance on the kinds of questions an inspector should consider when reviewing environmentally equivalent measures in an SPCC Plan and during a site inspection. The table provides a list of evaluation questions for each section of the rule, means of verifying compliance during an on-site review, and elements that should be considered in cases where the facility installation does not conform with the methods described in the SPCC rule. The EPA inspector should use the part(s) of the table that are relevant to the facility being inspected.

Table 3-3. SPCC requirements for environmentally equivalent measures under §112.7(a)(2).

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
ALL FACILITIES				
Security	112.7(g)(1)	Is the facility fully fenced? Are entrance gates locked and/or guarded when the facility is not in production or is unattended?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.7(g)(2)	Are adequate measures provided to ensure that master flow and drain valves and other valves that permit direct outward flow of the container's contents to the surface remain in closed position when in non-operating or non-standby status?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.7(g)(3)	Is the starter control for each oil pump accessible only to authorized personnel, and kept locked in "off" position, when the pump is in non-operating or non-standby status?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.7(g)(4)	Are the loading/unloading connections of oil pipelines or facility piping securely capped or blank-flanged when not in service, or when in standby for an extended period?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.7(g)(5)	Is facility lighting appropriate, considering the facility type and location, to assist in the discovery of discharges occurring in hours of darkness and to discourage acts of vandalism?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Loading and unloading racks	112.7(h)(1)	*No deviation allowed based on environmental equivalence.*		
	112.7(h)(2)	Are loading/unloading racks equipped with an interlocked warning light or physical barrier system, warning signs, wheel chocks, or a vehicle brake interlock system to prevent vehicles from departing before complete disconnection of oil transfer lines?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.7(h)(3)	Are the lowermost drain and all outlets of tank car or tank truck inspected for signs of discharge prior to filling and departure of the vehicles? Are the drain and outlets tightened, adjusted, or replaced as necessary to prevent liquid discharges while in transit?	Visual Review of procedures described in the Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Field-constructed aboveground containers	112.7(i)	Has the facility conducted an evaluation of field-constructed aboveground containers undergoing repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure? If a field-constructed aboveground container has discharged oil or failed due to brittle fracture failure or other catastrophe, has the container been evaluated and has appropriate action been taken?	Visual Inspection and testing records Brittle fracture evaluation records Plan description of standard by which the brittle fracture evaluation is conducted	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
ALL FACILITIES, EXCEPT OIL PRODUCTION				
Facility Drainage	112.8(b)(1) and 112.8(b)(2) *OR* 112.12(b)(1) and 112.12(b)(2)	*Diked areas* Is the facility drainage system or effluent treatment system designed to control oil discharges? If not, is drainage from diked storage areas restricted by valves? Are dikes equipped with manual valves of open-closed design? If pumps or ejectors are used to empty the dikes, are they manually activated? Is accumulated rainwater inspected for the presence of oil prior to draining?	Visual Plan review Records of drainage events	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(b)(3) and 112.8(b)(4) *OR* 112.12(b)(3) and 112.12(b)(4)	*Undiked areas with potential for a discharge* Does the facility have ponds, lagoons, or catchment basins designed to capture water from other areas with a potential for a discharge? If so, are such systems designed to retain or return oil to the facility? If not, are ditches throughout the facility designed to flow into a diversion system that would retain oil in the facility in the event of a discharge? If the facility has catchment basins, are they located outside areas subject to periodic flooding?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(b)(5) *OR* 112.12(b)(5)	If the facility uses more than one treatment unit to treat its drainage water, and this treatment is continuous and requires pump transfer, does the facility have at least two “lift” pumps?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Bulk Storage Containers	112.8(c)(1) *OR* 112.12(c)(1)	Are the material and construction of containers used for the storage of oil compatible with the product stored and conditions of storage (temperature, pressure, and soil conditions)?	Visual Plan review Standards of construction (tank label), construction documents and as-built specifications	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(2) *OR* 112.12(c)(2)	*No deviation allowed based on environmental equivalence.*		

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.8(c)(3) *OR* 112.12(c)(3)	Does the facility prevent unsupervised drainage of rainwater into a storm drain or open watercourse, or bypassing the facility treatment system? If so, does the facility keep adequate records of dike drainage event?	Visual Plan review Records of drainage events	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(4) *OR* 112.12(c)(4)	Does the facility have completely buried metallic storage tanks that were installed after January 10, 1974? If so, are these tanks protected from corrosion by coatings or cathodic protection?	Visual Plan review Installation records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(4) *OR* 112.12(c)(4)	Does the facility have completely buried metallic storage tanks that were installed after January 10, 1974? Are leak tests performed regularly on these tanks?	Visual Plan review Inspection and testing records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(5) *OR* 112.12(c)(5)	Does the facility have partially buried or bunkered metallic tanks used for the storage of oil? If so, are these tanks protected from corrosion by coatings or cathodic protection?	Visual Plan review Records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(6) *OR* 112.12(c)(6)	Does the facility test each aboveground container (including foundation and supports) for integrity on a regular schedule, and whenever a container undergoes material repairs? Do the tests combine visual inspection with another non-destructive shell testing technique? Does the facility frequently inspect the outside of each aboveground container for signs of deterioration, discharges, or accumulation or oil?	Plan review Inspection and testing records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(7) *OR* 112.12(c)(7)	Does the facility have containers with internal heating coils? Does the facility monitor the steam return and exhaust lines for contamination from internal heating coils? Does the facility pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system?	Visual Container specifications Review of procedures described in the Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.8(c)(8) *OR* 112.12(c)(8)	Are containers equipped with at least one of the following? - High liquid level alarm with audible or visual signal connected to a constantly attended station. - High liquid pump cutoff device. - Direct audible or code signal communication between container gauger and pumping station. - In the case of bulk storage containers, a fast response system for determining the liquid level (computers, telepulse, direct vision gauges), combined with the continuous presence of personnel to monitor filling operations. Are liquid level sensing devices regularly tested to ensure proper operation?	Visual Review of test procedures described in the Plan Test records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(9) *OR* 112.12(c)(9)	Are effluent treatment facilities inspected frequently to detect possible system upsets?	Inspection and testing records Review of inspection program described in Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(10) *OR* 112.12(c)(10)	Are there visible discharges from containers, including seams, gaskets, piping, pumps, valves, rivets, and bolts? If so, is the facility promptly addressing such discharges? Is there accumulation of oil in diked areas? If so, is the facility promptly removing such accumulations?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(c)(11) *OR* 112.12(c)(11)	*No deviation allowed based on environmental equivalence.*		
Piping	112.8(d)(1) *OR* 112.12(d)(1)	Does the facility have buried piping installed after August 16, 2002? If so, is this piping protected against corrosion by wrapping and coating? If this piping cathodically protected? Does the facility have any exposed buried piping? If so, does the facility inspect it for deterioration and undertake additional examination and corrective action as appropriate?	Visual Plan review Installation records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.8(d)(2) *OR* 112.12(d)(2)	Does the facility have piping that is not in service or is in standby service for an extended period of time? If so, is the terminal connection at the transfer point capped or blank-flanged, and is it marked as to origin?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(d)(3) *OR* 112.12(d)(3)	Are pipe supports properly designed to minimize abrasion and corrosion and to allow for expansion and contraction?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(d)(4) *OR* 112.12(d)(4)	Are aboveground valves, piping, and appurtenances regularly inspected? *NOTE: Inspection program must address conditions of items such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces.* Is buried piping tested for integrity and leaks when installed, constructed, relocated, or replaced?	Inspection records Description of inspection program within the Plan, or reference to industry standard.	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.8(d)(5) *OR* 112.12(d)(5)	Are all vehicles entering the facility appropriately warned to ensure that they will not endanger aboveground piping and other oil transfer operations?	Visual	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
ONSHORE OIL PRODUCTION FACILITIES				
Drainage	112.9(b)(1)	Are drains of dikes or other containment measures for tank batteries and separation/treating areas closed and sealed at all times, except when draining uncontaminated rainwater?	Visual Plan review Records of drainage events	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(b)(1)	Is accumulated water inspected prior to drainage? And is accumulated oil removed and either returned to storage or disposed of properly?	Plan review Records of drainage events	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(b)(2)	Are field drainage systems and oil traps, sumps, or skimmers regularly inspected for accumulation of oil?	Visual Inspection records Inspection program described in the Plan, including the schedule and scope of such inspections	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Bulk Storage Containers	112.9(c)(1)	Are the material and construction of containers used for the storage of oil compatible with the product stored and conditions of storage (temperature, pressure, and soil conditions)?	Visual Construction standards (tank labels, as-build specifications, etc.) Visual indication of incompatibility, i.e., excessive corrosion	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(c)(2)	*No deviation allowed based on environmental equivalence.*		
	112.9(c)(3)	Is each container visually inspected periodically and on a regular schedule? *NOTE: Inspections must cover foundation and support of each container that is on or above the ground surface.*	Inspection and testing records Inspection program described in the Plan, including scope and frequency of such inspections	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(c)(4)	Are tank battery installations engineered to prevent discharges? - Container capacity is adequate to prevent overfill if the gauger/pumper is delayed in making a schedule round - Equipped with overflow equalizing lines between containers - Adequate vacuum protection to prevent container collapse during transfer of oil - High level sensors if the facility is subject to a computer production control system	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
Transfer operations	112.9(d)(1)	Are all aboveground valves and piping inspected periodically and upon a regular schedule? *NOTE: Inspections must cover items such as flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, and bleeder and gauge valves.*	Inspection and testing records Inspection program described in the Plan, including frequency and scope of inspections	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(d)(2)	Are saltwater disposal facilities inspected, particularly following a sudden change in atmospheric temperature?	Plan review Inspection and testing records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.9(d)(3)	Does the facility have a program of flowline maintenance?	Inspection and maintenance records. Program of flowline maintenance described in the Plan, including the scope and frequency of maintenance	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
ONSHORE OIL DRILLING AND WORKOVER FACILITIES				
Mobile drilling or workover equipment	112.10(b)	Is the equipment located so as to prevent a discharge?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Containment	112.10(c)	*No deviation allowed based on environmental equivalence.*		
Blowout prevention	112.10(d)	If drilling below any casing string, or during workover operations, are a blowout prevention assembly and well control system installed? Are the blowout assembly and well control system capable of controlling well-head pressure?	Visual Installation record Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
OFFSHORE OIL DRILLING, PRODUCTION AND WORKOVER FACILITIES				
Drainage	112.11(b)	Is oil drainage collection equipment used to prevent and control small discharges? Are facility drains directed toward a central collection sump?	Visual Plan review	See below for cases where a sump is not practicable.
	112.11(b)	If a sump is not practicable, is oil removed from collection equipment as often as necessary to prevent overflow?	Visual Oil removal procedures described in the Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(c)	If a sump system is employed, are the sizes of pump and sump adequate? Is a spare pump available?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(c)	If a sump system is employed, does the facility have in place a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation? If required by the conditions, are a redundant automatic sump pump and control devices provided?	Visual Preventive maintenance inspection and testing program described in the Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
Separators and Treaters	112.11(d)	Does the facility have areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where the pollution risk is high? If so, is the facility specially equipped to prevent the discharge of oil, including: - Extending the flare line to a diked area if the separator is near shore? - Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator, or installing parallel redundant dump valves?	Visual Description of inspection and maintenance of separators and heater treaters (including dump valves) in the Plan, including the schedule and scope of such inspections.	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Containers	112.11(e)	Are atmospheric storage or surge containers equipped with high liquid level sensing devices that activate an alarm or control the flow?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(f)	Are pressure containers equipped with high and low pressure sensing devices that activate an alarm or control the flow?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(g)	Are containers equipped with suitable corrosion protection?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(h)	Does the Plan contain a written procedure for inspecting and testing pollution control equipment and systems?	Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Pollution prevention equipment and systems	112.11(i)	Are the pollution prevention equipment and systems tested and inspected on a scheduled periodic basis? Are the procedures documented in the Plan?	Inspection and testing records Description of inspection and testing program in Plan, including scope and frequency	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.11(i)	Is the facility using simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems?	Description of testing program in Plan	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Well shut-in valves	112.11(j)	Is the method of activation or control of well shut-in valves and devices described in sufficient details?	Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Blowout Prevention	112.11(k)	If drilling below any casing string or during workover assembly, is a blowout preventer (BOP) assembly and well control system installed? If the BOP assembly and well control system capable of controlling well-head pressure that may be encountered?	Visual Plan review Installation records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Flowlines	112.11(l)	Are manifolds (headers) equipped with check valves on individual flowlines?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(m)	Are all flowlines equipped with a high pressure sensing device and shut-in valve at the wellhead? If not, is a pressure relief system provided for flowlines?	Visual Plan review	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
Piping	112.11(n)	Is all piping appurtenant to the facility protected from corrosion, such as with protective coating or cathodic protection?	Visual Plan review Installation records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?
	112.11(o)	Is sub-marine piping adequately protected against environmental stresses and other activities such as fishing operations?	Inspection and maintenance program described in Plan Installation records	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

Rule Element	Relevant Section(s)	Evaluation	Verification During Site Visit	Basis for Environmental Equivalence
	112.11(p)	Does the facility have a program to inspect or test sub-marine piping for failures according to a regular schedule? Does the facility maintain a record of these inspections or tests?	Inspection and testing records Review of inspection or testing program described in Plan, including scope and frequency of inspections or tests	Does the Plan state the reason for nonconformance? Does the Plan describe in sufficient detail an alternative measure? Is the alternative measure appropriate for the facility? Does it provide equivalent environmental protection? Is the alternative measure being implemented as described?

SECONDARY CONTAINMENT AND IMPRACTICABILITY DETERMINATIONS

4.1 Introduction

The purpose of the SPCC rule is to prevent discharges of oil into navigable waters of the United States and adjoining shorelines. One of the primary ways through which the rule sets out to do this is the secondary containment requirements. A secondary containment system provides an essential line of defense in the event of a failure of an oil container (primary containment), such as a bulk storage container, a mobile or portable container, pipes or flowlines, or other oil-filled operational equipment. The system provides temporary containment of spilled oil until the appropriate response actions are taken to abate the source of the discharge and remove oil from areas where it has accumulated before the oil reaches navigable waters and adjoining shorelines. The secondary containment requirements are divided into two categories:

- **General provisions** address the potential for oil discharges from all regulated parts of a facility. Containment method, design, and capacity are determined by good engineering practice to contain an oil discharge until cleanup occurs.

- **Specific provisions** address the potential of oil discharges from specific parts of a facility where oil is stored or handled. The containment design, sizing, and freeboard requirements are specified by the SPCC rule to address a major container failure.

The *general* secondary containment requirements are intended to address the most likely oil discharge from bulk storage containers; mobile/portable containers; production tank battery, treatment, and separation installations; a particular piece of oil-filled operational or process equipment; (non-rack) transfer activity; or piping in accordance with good engineering practice. The *specific* secondary containment requirements are intended to address a major container failure (the entire contents of the container and/or compartment) associated with a bulk storage container; single compartment of a tank car or tank truck at a loading/unloading rack; mobile/portable containers; and production tank batteries, treatment, and separation installations. These specific provisions (see Table 4.1 in Section 4.2) explicitly provide requirements for sizing, design, and freeboard that need to be addressed in the SPCC Plan.

The purpose of this chapter is to clarify the relationships among the various general and specific secondary containment requirements of the SPCC rule, and to demonstrate how these requirements apply. This chapter also discusses the rule's impracticability determination provision, which may be used when a facility owner/operator is incapable of installing secondary containment by any reasonable method. The additional requirements that accompany an impracticability determination, the documentation needed to support such a determination, and the role of the EPA inspector in reviewing secondary containment requirements and impracticability determinations are also discussed.

The remainder of this chapter is organized as follows:

- **Section 4.2** provides an overview of the SPCC rule's secondary containment provisions, both general and specific. It also discusses related issues, such as active versus passive measures, the "sufficiently impervious" requirement, and facility drainage. The role of the EPA inspector in evaluating compliance with the rule provisions is discussed for each of these subjects.
- **Section 4.3** describes the impracticability determination provision.
- **Section 4.4** discusses how the impracticability determination may be used in certain circumstances.
- **Section 4.5** describes required measures when secondary containment is impracticable.
- **Section 4.6** describes the role of the EPA inspector in reviewing impracticability determinations.

4.2 Overview of Secondary Containment Provisions

The SPCC rule includes several different secondary containment provisions intended to address the various activities or locations at a facility in which oil is handled. This section differentiates among the general and specific secondary containment provisions.

Table 4-1 lists all the secondary containment provisions of the SPCC rule for different types of facilities.

Table 4-1. Secondary containment provisions in 40 CFR part 112.

Type of Facility	Secondary Containment	Rule Section(s)
All Facilities	General containment (areas with potential for discharge, e.g., piping, oil-filled operating and manufacturing equipment, and non-rack related transfer areas)	112.7(c)
	Loading/unloading racks*,**	112.7(h)(1)
Onshore Storage	Bulk storage containers*	112.8(c)(2) or 112.12(c)(2)
	Mobile or portable oil containers*	112.8(c)(11) or 112.12(c)(11)
Onshore Production	Bulk storage containers, including tank batteries, separation, and treating facility installations*	112.9(c)(2)
Onshore Oil Drilling and Workover	Mobile drilling or workover equipment	112.10(c)
Offshore Oil Drilling, Production, and Workover	Oil drilling, production, or workover equipment	112.7(c)

* Sized secondary containment requirement, as discussed in Section 4.2.2.

** Although this requirement applies to all facilities, loading and unloading rack equipment is often not present at typical production facilities, as discussed in Section 4.4.2.

Figures 4-1 through 4-4 illustrate the relationships between the secondary containment requirements at various types of facilities. EPA inspectors should use the flowchart that corresponds to the type of facility he or she is visiting (see the uppermost box in each flowchart). Types of containers, equipment, and activities or areas where oil is handled are identified in the second row of the flowchart, with reference to the appropriate secondary containment rule provision. The flowcharts note the use of impracticability determinations and additional design considerations for other areas with the potential for discharge.

Figure 4-1. Secondary containment provisions in 40 CFR part 112 related to onshore storage facilities (§§112.7 and 112.8 or 112.12).

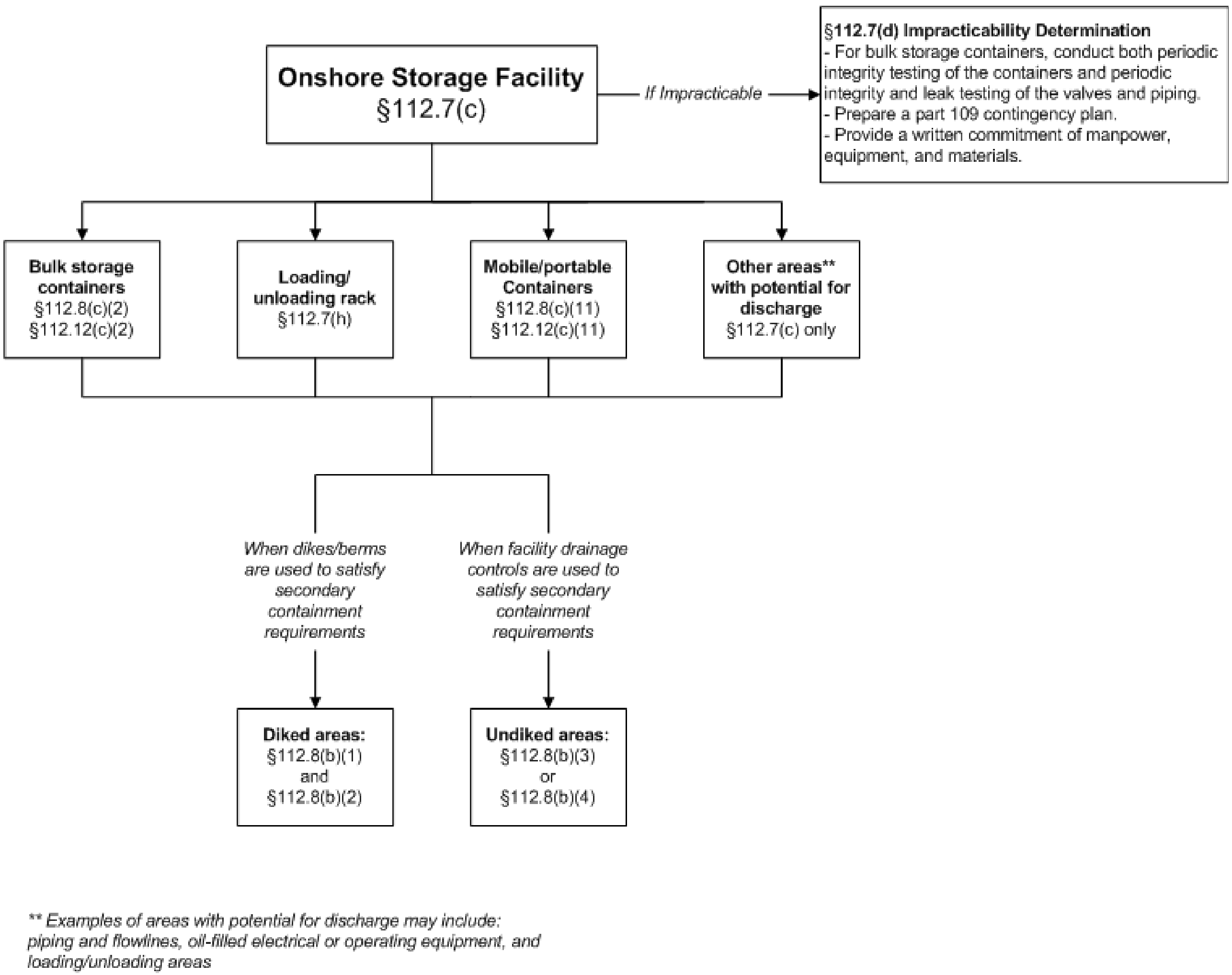


Figure 4-2. Secondary containment provisions in 40 CFR part 112 related to onshore production facilities (§§112.7 and 112.9).

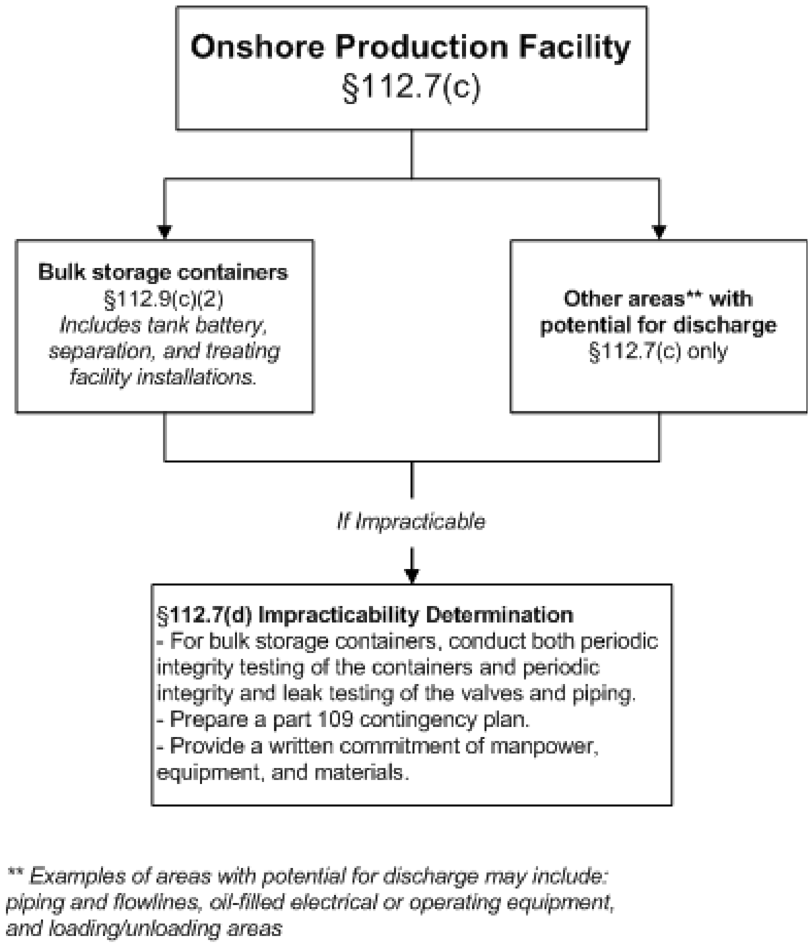


Figure 4-3. Secondary containment provisions in 40 CFR part 112 related to onshore oil drilling and workover facilities (§§112.7 and 112.10).

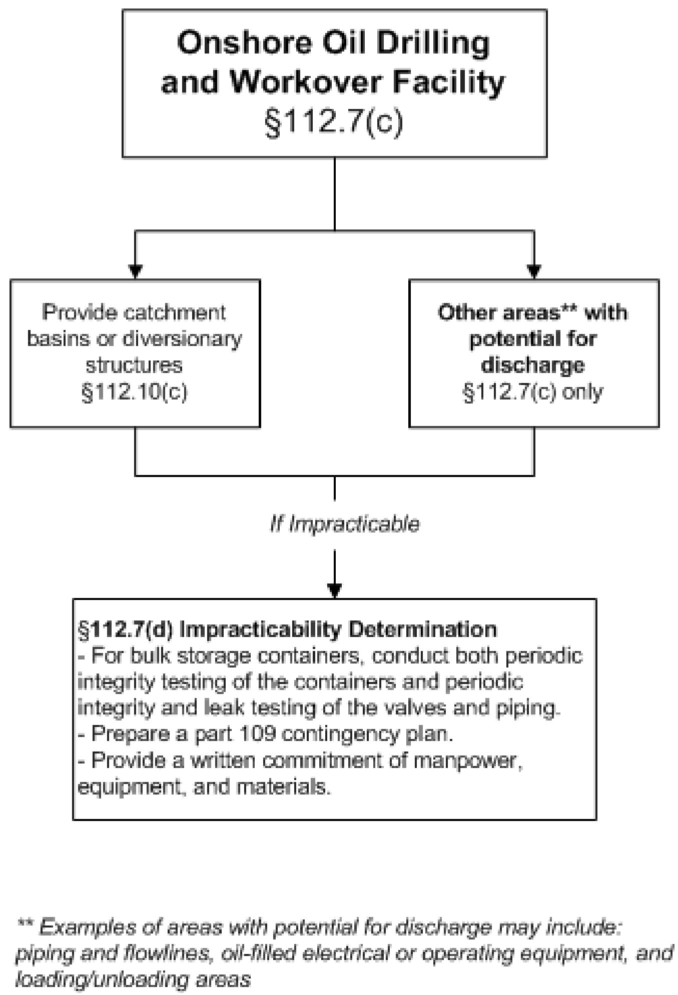
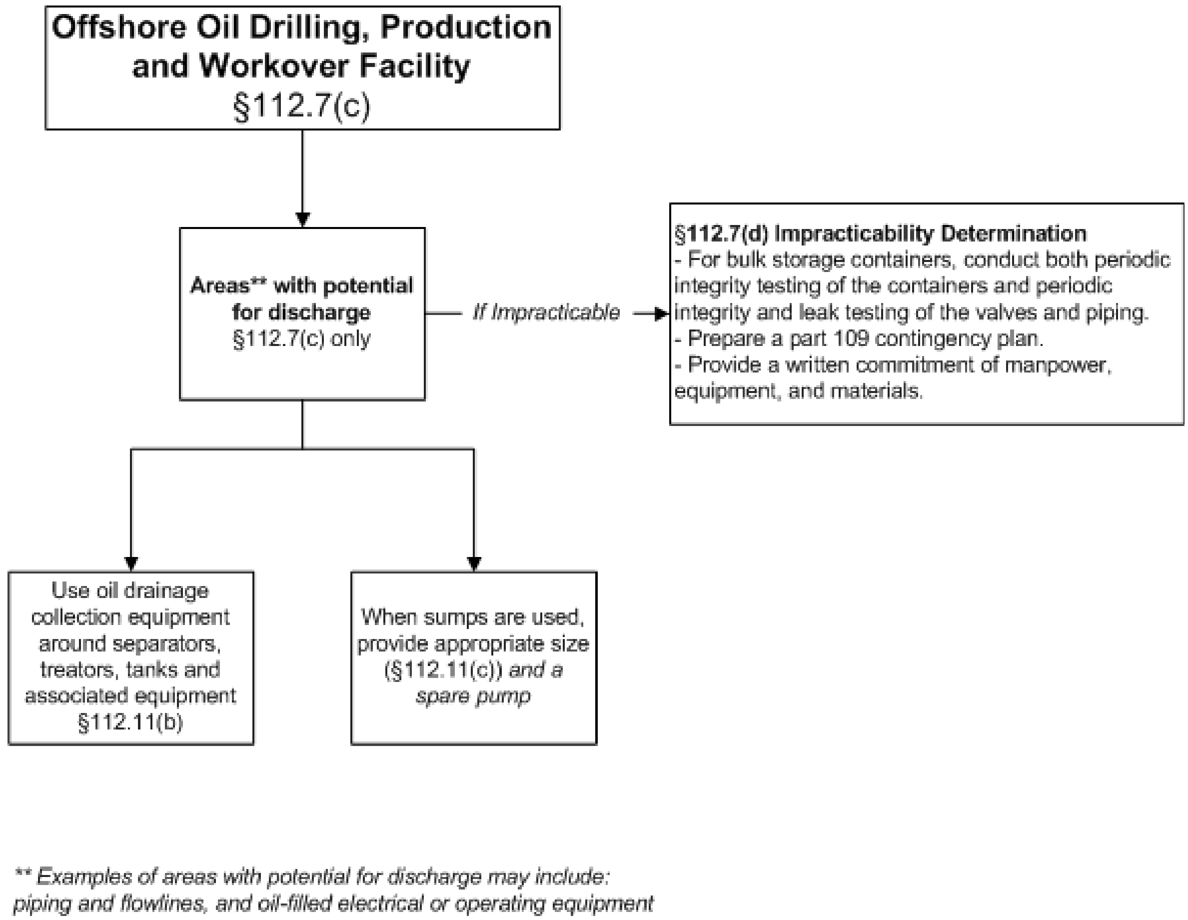


Figure 4-4. Secondary containment provisions in 40 CFR part 112 related to offshore oil drilling, production, and workover facilities (§§112.7 and 112.11).



4.2.1 General Secondary Containment Requirement

At a regulated facility, all areas with the potential for a discharge are subject to the general secondary containment provision, §112.7(c). These areas may have bulk storage containers; mobile/portable containers; production tank batteries, treatment, and separation installations; pieces of oil-filled operational or manufacturing equipment; loading/unloading areas (also referred to as transfer areas); piping; and may include other areas of a facility where oil is present. The general secondary containment provision requires that these areas be designed with appropriate containment and/or diversionary structures to prevent a discharge that may be harmful (a discharge as described in §112.1(b)). "Appropriate containment" should be designed to address the most likely discharge from the primary containment system such that the discharge will not escape containment before cleanup occurs.

> **§112.7(c)**
> Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b). The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs. At a minimum, you must use one of the following prevention systems or its equivalent:
> (1) For onshore facilities:
> (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;
> (ii) Curbing;
> (iii) Culverting, gutters, or other drainage systems;
> (iv) Weirs, booms, or other barriers;
> (v) Spill diversion ponds;
> (vi) Retention ponds; or
> (vii) Sorbent materials.
> (2) For offshore facilities:
> (i) Curbing or drip pans; or
> (ii) Sumps and collection systems.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Section 112.7(c) lists several methods of providing secondary containment, which are described in Table 4-2. These methods are examples only; other containment methods may be used, consistent with good engineering practice. For example, a facility could use an oil/water separator, combined with a drainage system, to collect and retain discharges of oil within the facility. Certification of the SPCC Plan verifies that whatever secondary containment methods are selected are appropriate for the facility and that they follow good engineering practice.

> **Discharge as described in §112.1(b)** is a discharge "in quantities that may be harmful, as described in part 110 of this chapter [40 CFR part 110], into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act)..."
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Table 4-2. Example methods of secondary containment listed in §112.7(c).

Secondary Containment Method	Description of Examples
Dikes, berms, or retaining walls sufficiently impervious to contain oil	Types of permanent engineered barriers, such as raised earth embankments or concrete containment walls, designed to hold oil. Normally used in areas with potential for large discharges, such as single or multiple aboveground storage tanks and certain piping. Temporary dikes and berms may be constructed after a discharge is discovered as an active containment measure (or a countermeasure) so long as they can be implemented in time to prevent the spilled oil from reaching surface waters. Please see Section 4.2.6, Passive Versus Active Measures of Secondary Containment.
Curbing	Typically consists of a permanent reinforced concrete or an asphalt apron surrounded by a concrete curb. Can also be of a uniform, rectangular cross-section or combined with mountable curb sections to allow access to loading/unloading vehicles and materials handling equipment. Can be used where only small spills are expected and also used to direct spills to drains or catchment areas. Temporary curbing may be constructed after a discharge is discovered as an active containment measure (or a countermeasure) so long as it can be implemented in time to prevent the spilled oil from reaching surface waters. Please see Section 4.2.6, Passive Versus Active Measures of Secondary Containment.
Culverting, gutters, or other drainage systems	Types of permanent drainage systems designed to direct spills to remote containment or treatment areas. Ideal for situations where spill containment structures cannot or should not be located immediately adjacent to the potential spill source.
Weirs	Dam-like structures with a notch through which oil may flow to be collected. Generally used in combination with skimmers to remove oil from the surface of water.
Booms	Form a continuous barrier placed as a precautionary measure to contain/collect oil. Typically used for the containment, exclusion, or deflection of oil floating on water, and is usually associated with an oil spill contingency or facility response plan to address oil spills that have reached surface waters. Beach booms are designed to work in shallow or tidal areas. Sorbent-filled booms can be used for land-based spills. There are very limited applications for use of booms for land-based containment of discharged oil.
Barriers	Spill mats, storm drain covers, and dams used to block or prevent the flow of oil. Temporary barriers may be put in place prior to a discharge or after a discharge is discovered. These are both considered effective active containment measures (or countermeasures) as long as they can be implemented in time to prevent the spilled oil from reaching navigable waters and adjoining shorelines. Please see Section 4.2.6, Passive Versus Active Measures of Secondary Containment.

Secondary Containment Method	Description of Examples
Spill diversion ponds and retention ponds	Designed for long-term or permanent containment of storm water capable to capture and hold oil or runoff and prevent it from entering surface water bodies. Temporary spill diversion ponds and retention ponds may be constructed after a discharge is discovered as an active containment measure (or countermeasure) as long as they can be implemented in time to prevent the spilled oil from reaching navigable waters and adjoining shorelines. There are very limited applications for use of temporary spill diversion and retention ponds for land-based containment of discharged oil due to the timely availability of the appropriate excavation equipment required to rapidly construct the ponds. Please see Section 4.2.6, Passive Versus Active Measures of Secondary Containment.
Sorbent materials	Insoluble materials or mixtures of materials (packaged in forms such as spill pads, pillows, socks, and mats) used to recover liquids through the mechanisms of absorption, adsorption, or both. Materials include clay, vermiculite, diatomaceous earth, and man-made materials. Used to isolate and contain small drips or leaks until the source of the leak is repaired. Commonly used with material handling equipment, such as valves and pumps. Also used as an active containment measure (or countermeasure) to contain and collect small-volume discharges before they reach waterways. Please see Section 4.2.6, Passive Versus Active Measures of Secondary Containment.
Drip pans	Used to isolate and contain small drips or leaks until the source of the leak is repaired. Drip pans are commonly used with product dispensing containers (usually drums), uncoupling of hoses during bulk transfer operations, and for pumps, valves, and fittings.
Sumps and collection systems	A permanent pit or reservoir and the troughs/trenches connected to it that collect oil.

4.2.2 Specific Secondary Containment Requirements

While all parts of a regulated facility with potential for a discharge are, at a minimum, subject to the general secondary containment requirements of §112.7(c), areas where certain types of containers, activities, or equipment are located may be subject to additional, more stringent containment requirements, including specifications for minimum capacity (see Table 4-1.) The SPCC rule specifies a required minimum size for secondary containment for the following areas:

- Bulk storage containers;
- Loading/unloading racks;
- Mobile or portable bulk storage containers; and
- Production facility bulk storage containers, including tank batteries, separation, and treating vessels/equipment.

The applicable requirements for each of these types of containers or equipment are discussed in more detail in Section 4.4 of this chapter. In general, provisions for sized secondary containment require that the chosen containment method be sized to contain the largest single oil compartment or container plus "sufficient freeboard" to contain precipitation, as discussed in Section 4.2.4 below. Specific freeboard sizing requirements apply to all of the areas listed above except loading/unloading racks.

EPA inspectors should note that the "largest single compartment" may consist of containers that are permanently manifolded together. Permanently manifolded tanks are tanks that are designed, installed, or operated in such a manner that the multiple containers function as a single storage unit (67 FR 47122). Accordingly, the total capacity of manifolded containers is the design capacity standard for the sized secondary containment provisions (plus freeboard in certain cases).

4.2.3 Role of the EPA Inspector in Evaluating Secondary Containment Methods

The EPA inspector should evaluate whether the secondary containment system is adequate for the facility, and whether it is maintained to contain any oil discharges to navigable waters and adjoining shorelines. Some items that the inspector should look for include:

For a dike, berm, or other engineered secondary containment system:

- Capacity of the system to contain oil as determined by the Professional Engineer (PE) in accordance with good engineering practice and the requirements of the rule;
- Cracks in containment system materials (e.g., concrete, liners, coatings, earthen materials);
- Discoloration;
- Presence of spilled or leaked material (standing liquid);
- Corrosion of the system;
- Erosion of the system;
- Level of precipitation in diked area and available capacity versus design capacity;
- Dike or berm permeability;
- Presence of debris;
- Operational status of drain valves or other drainage controls;
- Location/status of pipes, inlets, and drainage around and beneath containers;
- Excessive vegetation that may inhibit visual inspection and assessment of berm integrity;
- Large-rooted plant systems (e.g., shrubs, cacti, trees) that could affect the berm integrity;
- Holes or penetrations to the containment system created by burrowing animals; and
- Drainage records for rainwater discharges from containment areas.

For retention and drainage ponds:

- Capacity of the system to contain oil as determined by the PE in accordance with good engineering practice and the requirements of the rule;
- Erosion of the system;
- Cracks in containment system materials (e.g., concrete, liners, coatings, earthen materials);
- Discoloration;
- Design capacity versus available capacity;
- Presence of spilled or leaked liquid;
- Presence of debris;
- Stressed vegetation;
- Evidence of water seeps from the system; and
- Operational status of drain valves or other drainage controls.

Some of the items listed above are discussed in more detail in later sections of this guidance document.

4.2.4 Sufficient Freeboard

The SPCC rule does not specifically define the term "sufficient freeboard," nor does it describe how to calculate this volume. The 1991 proposed amendment to the SPCC rule recommended the use of industry standards and data on 25-year storm events to determine the appropriate freeboard capacity. Numerous commenters on the 1991 proposal questioned the 25-year storm event recommendation and suggested alternatives, such as using 110 percent of storage tank capacity or using other characteristic storm events. EPA addressed these comments in the preamble to the 2002 rule:

> We believe that the proper standard of "sufficient freeboard" to contain precipitation is that amount necessary to contain precipitation from a 25-year, 24-hour storm event. That standard allows flexibility for varying climatic conditions. It is also the standard required for certain tank systems storing or treating hazardous waste. (67 FR 47117)

However, EPA did not set this standard as a requirement for freeboard capacity. Therefore, the use of precipitation data from a 25-year, 24-hour storm event is not enforceable as a standard for containment freeboard. In the preamble, EPA stated:

> While we believe that the 25-year, 24-hour storm event standard is appropriate for most facilities and protective of the environment, we are not making it a rule standard because of the difficulty and expense for some facilities of securing recent information concerning such storm events at this time.

Ultimately EPA determined that, for freeboard, "the proper method of secondary containment is a matter of engineering practice so [EPA does] not prescribe here any particular method" (67 FR 47101). However, where data are available, the facility owner/operator (and certifying PE) should consider the appropriateness of the 25-year, 24-hour storm event precipitation level as a matter of good engineering practice.

EPA recognizes that a “110 percent of storage tank capacity” rule of thumb may be a potentially acceptable design criterion in many situations, and that aboveground storage tank regulations in many states require that secondary containment be sized to contain at least 110 percent of the volume of the largest tank. However, in some areas, 110 percent of storage tank capacity may not provide enough volume to contain precipitation from storm events. Some states require that facilities consider storm events when designing secondary containment structures, and in certain cases these requirements translate to more stringent sizing criteria than the 110 percent rule of thumb. Other important factors may be considered in determining necessary secondary containment capacity. According to practices recommended by industry groups such as the American Petroleum Institute (API), these factors include:

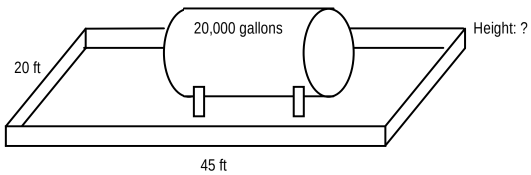
- Local precipitation conditions (rainfall and/or snowfall);
- Height of the existing dike wall;
- Size of tank/container;
- Safety considerations; and
- Frequency of dike drainage and inspection.

The following examples (Figure 4-5 and Figure 4-6) present secondary containment size calculations for hypothetical oil storage areas. The certifying PE determines what is sufficient freeboard for precipitation for secondary containment and should document how the determination was made along with supporting calculations in the SPCC Plan.

Figure 4-5. Sample calculation of containment size, using two design criteria.

The following example compares two different design criteria: one based on the volume of the tank and one based on precipitation.

Scenario:
A 20,000-gallon horizontal tank is placed within an engineered secondary containment structure, such as a concrete dike. The tank is 35 feet long by 10 feet in diameter. The secondary containment area provides a 5-foot buffer on all sides (i.e., dike dimensions are 45 feet x 20 feet).



Given the dike footprint, we want to determine the wall height necessary to provide sufficient freeboard for precipitation, based on (1) the tank storage capacity; (2) actual precipitation data. Several storm events in the recent past caused precipitation in amounts between 3.6 and 4.0 inches at this location, although greater amounts have also been reported in the past.
Note: The factor for converting cubic feet to gallons is 7.48 gallons/ft^3.

1. Calculation of secondary containment capacity, based on a design criterion of 110% of tank storage capacity:

Containment surface area = 45 ft x 20 ft = 900 ft^2
Tank volume, based on 100% of tank capacity = 20,000 gallons
Tank volume, in cubic feet = 20,000 gallons / 7.48 gallons/ft^3 = 2,674 ft^3
Wall height that would contain the tank's volume = 2,674 ft^3 / 900 ft^2 = 2.97 ft

Containment capacity with freeboard, based on 110% of tank capacity = 22,000 gallons
Containment capacity, in cubic feet = 22,000 gallons / 7.48 gallons/ft^3 = 2,941 ft^3
Wall height equivalent to 110% of storage capacity = 2,941 ft^3 / 900 ft^2 = 3.27 feet
Height of freeboard = 3.27 ft - 2.97 ft = 0.3 ft = 3.6 inches

Therefore, a dike design based on a criterion of 110% of tank capacity provides a dike wall height of 3.27 feet.

2. Calculation of secondary containment capacity, based on rainfall criterion:

After a review of historical precipitation data for the vicinity of the facility, the PE determined that a 4.5 inch rain event is the most reasonable design criterion for this diked area.

Containment surface area = 45 ft x 20 ft = 900 ft^2
Tank volume, based on 100% of tank capacity = 20,000 gallons
Tank volume, in cubic feet = 20,000 gallons / 7.48 gallons/ft^3 = 2,674 ft^3
Wall height that would contain the tank's volume = 2,674 ft^3 / 900 ft^2 = 2.97 ft

The height of the dike would need to be 3.35 feet (2.97 ft + 4.5 in).

4.5 inches / 12 inches = .375 ft + 2.97 ft = 3.35 ft

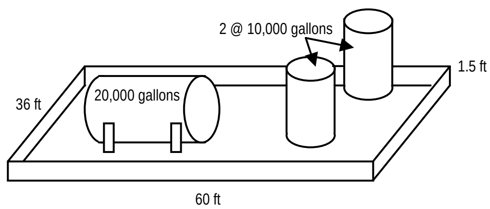
Therefore, a dike design based on a 4.5 inch rain event provides a dike wall height of 3.35, or 0.9 inch higher than calculated using the 110% criterion.

Conclusion: As noted from the comparison of the two design criteria illustrated above, the dike heights are similar. The adequacy of the secondary containment freeboard is ultimately an engineering determination made by the PE and certified in the Plan.

Figure 4-6. Sample secondary containment calculations, for multiple tanks in a containment area.

The EPA inspector has questioned the adequacy of the secondary containment based on the following scenario and wants to verify how much precipitation the dike area can hold and compare it to available precipitation data to determine if 112% is an adequate design criterion for this facility.

Scenario:
A 60 ft x 36 ft concrete dike surrounds one 20,000-gallon horizontal tank (10 ft diameter and 35 ft length) and two 10,000-gallon vertical tanks (each 10 ft diameter and 15 ft height). The dike walls are 18 inches (1.5 feet) tall. The SPCC Plan states that secondary containment is designed to hold 112% of the volume of the largest container.



Notes:
– The factor for converting gallons to cubic feet is 7.48 gallons/ft^3.
– The volume displaced by a cylindrical vertical tank is the tank volume within the containment structure and is equal to the tank footprint multiplied by height of the concrete dike. The tank footprint is equal to $\pi D^2/4$, where D is the tank diameter.

1. Calculate total dike capacity:

Total capacity of the concrete dike
= length x width x height = 60 ft x 36 ft x 1.5 ft = 3,240 ft^3 = 24,235 gallons

2. Calculate net dike capacity, considering displacement from other tanks within the dike:

The total capacity of the concrete dike is reduced by the volume "displaced" by other tanks inside the containment structure. The displacement is:
= number of tanks x footprint x height of dike wall
= 2 x π(10 ft)^2 /4 x 1.5 ft = 235.6 ft^3 = 1,762 gallons

The net dike capacity, i.e., the volume that would be available in the event of a failure of the largest tank within the dike, is:
= Total volume – tank displacement = 24,235 – 1,762 = 22,473 gallons = 3,004 ft^3

3. Calculate the amount of available freeboard provided by the dike, given the net dike capacity:

The available freeboard volume is:
= Net dike capacity – volume of largest tank within the dike
= 22,473 – 20,000 = 2,473 gallons = 331 ft^3

This is equivalent, expressed in terms of the capacity of the largest tank, to:
= Net dike capacity/volume of largest tank within the dike
= 22,473 / 20,000 = 112%

This available freeboard volume provides a freeboard height:
= Available freeboard volume / dike surface area
= 331 ft^3 / (60 ft x 36 ft) = 0.15 ft $\approx$1.8 in

Therefore, this dike provides sufficient freeboard for 1.8 inches of precipitation.

Conclusion:
The EPA inspector should review the Plan and/or inquire about the precipitation event considered in determining that "sufficient freeboard for precipitation" is provided. The adequacy of the secondary containment freeboard is ultimately an engineering determination made by the PE and is certified in the Plan. This example serves only as a guide on doing the calculations for certain circumstances in which the inspector has concerns with the freeboard volume associated with the secondary containment design.

4.2.5 Role of the EPA Inspector in Evaluating Sufficient Freeboard

When reviewing an SPCC Plan, the EPA inspector should evaluate whether the size of secondary containment is adequate to meet the freeboard requirement. When examining the secondary containment measures for bulk storage containers, mobile or portable oil containers, and production facility bulk storage containers, the inspector should ensure that the Plan documents that the secondary containment capacity can hold the entire capacity of the largest single container, plus sufficient freeboard to contain precipitation. Whatever method is used to calculate the amount of freeboard that is "sufficient" for the facility and container configuration should be documented in the Plan.

To determine whether secondary containment is sufficient, the EPA inspector may:

- Verify that the Plan specifies the capacity of secondary containment along with supporting documentation, such as calculations for comparing freeboard capacity to the volume of precipitation in an expected storm event.
  - If calculations are not included with the Plan, and the inspector suspects the secondary containment is inadequate, the inspector may request supporting documentation from the owner/operator.[1]
  - If diked area calculations appear inadequate, review local precipitation data such as data from airports or the National Weather Service,[2] as needed.
- Review operating procedures, storage tank design, and/or system controls for preventing inadvertent overfilling of oil storage tanks that could affect the available capacity of the secondary containment structure.
- Confirm that the secondary containment capacity can reasonably handle the contents of the largest tank on an *ongoing basis* (i.e., including during rain events).
- During the inspection, verify that the containment structures and equipment are maintained and that the SPCC Plan is properly implemented.

4.2.6 Passive Versus Active Measures of Secondary Containment

In some situations, permanent containment structures, such as dikes, may not be feasible (i.e., for certain electrical equipment). Section 112.7(c) allows for the use of certain types of active containment measures (countermeasures or spill response capability), which *prevent a discharge to navigable waters or adjoining shorelines.* Active containment measures are those that require deployment or other specific action by the owner or operator. These measures may be deployed either before an activity involving the handling of oil starts, or in reaction to a discharge so long as the active measure is designed to prevent an oil spill from reaching *navigable water or adjoining*

[1] Industry guidance recommends that facility owners/operators include any secondary containment capacity calculations and/or design standards with the Plan. API Bulletin D16, "Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans," contains example calculations to which inspectors may refer.

[2] National Weather Service, Hydrometeorological Design Studies Center, Current Precipitation Frequency Publications, available at http://www.nws.noaa.gov/oh/hdsc/currentpf.htm#N2.

shorelines. Passive measures are permanent installations and do not require deployment or action by the owner/operator.

Active measures (countermeasures) include, but are not limited to:

- **Placing a properly designed storm drain cover over a drain to contain a potential spill in an area where a transfer occurs, *prior* to the transfer activity.** Storm drains are normally kept uncovered; deployment of the drain cover prior to the transfer activity may be an acceptable active measure to prevent a discharge from reaching navigable waters or adjoining shorelines through the drainage system.

- **Placing a storm drain cover over a drain in reaction to a discharge, before the oil reaches the drain.** If deployment of a drain cover can *reliably* be achieved in time to prevent a discharge of oil from reaching navigable waters or adjoining shorelines, this may be an acceptable active measure. This method may be risky, however, and is subject to a good engineering judgement on what is realistically and reliably achievable, even under adverse circumstances.

- **Using spill kits in the event of an oil discharge.** The use of spill kits, strategically located and ready for deployment in the event of an oil discharge, may be an acceptable active measure, in certain circumstances, to prevent a spill from reaching navigable waters or adjoining shorelines. This method may be risky and is subject to good engineering judgement, considering the volume most likely expected to be discharged and proximity to navigable waters or adjoining shorelines.

> ☞ **Tip**
>
> *Active* – The containment measure involves a certain action by facility personnel before or after the discharge occurs. These actions are also referred to as spill countermeasures.
>
> *Passive* – The containment measure remains in place regardless of the facility operations and therefore does not require facility personnel to act.

- **Use of spill response capability (spill response teams) in the event of an oil discharge.** This method differs from activating an oil spill contingency plan (such as required in §112.7(d)) because the response actions are specifically designed to contain an oil discharge *prior to reaching navigable waters or adjoining shorelines.* This may include the emergency construction/deployment of dikes, curbing, diversionary structures, ponds, and other temporary containment methods (such as sorbent materials) so long as they can be implemented in time to prevent the spilled oil from reaching navigable waters or adjoining shorelines. This method may be risky and is subject to good engineering judgement.

- **Closing a gate valve that controls drainage from an area prior to a discharge.** If the gate valve is normally kept open, closing it before an activity that may result in an oil discharge may be an acceptable active measure to prevent a spill from reaching navigable waters or adjoining shorelines.

The efficacy of active containment measures to prevent a discharge depends on their technical effectiveness (e.g., mode of operation, absorption rate), placement and quantity, and timely deployment prior to or following a discharge. For discharges that occur only during manned activities, such as those occurring during transfers, an active measure (e.g, sock, mat, other portable barrier, or land-based response capability) may be appropriate, provided that the measure is capable of containing the oil discharge volume and rate, and is timely and properly constructed/deployed. Ideally, in order to further reduce the potential for a discharge to reach navigable waters or adjoining shorelines, the active measure should be deployed prior to initiating the activity with potential for a discharge.

☞ **Tip**
Land-Based Response Capability is used to describe any active measure that is deployed/ implemented immediately upon discovery of a discharge before the discharge reaches navigable waters or adjoining shorelines.

Contingency Plan is used to describe measures for controlling, containing, and recovering oil that has been discharged into or upon navigable waters or adjoining shorelines in such quantities as may be harmful.

For certain active measures, however, such as the use of “kitty litter” or other loose sorbent material, it may be impractical to pre-deploy the measure. In such cases, the sorbent material should be readily available so that it can *immediately* be used before the spill can spread. Portable tanks can be equipped with a spill kit to be used in the event of a discharge during transfers. The spill kit should be sized, however, to effectively contain the volume of oil that could be discharged. Most commercially available spill kits are intended for relatively small volumes (up to approximately 150 gallons of oil). EPA generally believes that active containment measures can be used to satisfy the general secondary containment requirement when they are capable of containing the most likely discharge volume. Elements to consider may include the capacity of the containment measure, effectiveness, and timely implementation, and the availability of personnel and equipment to implement the active measure effectively at the facility. For example, a most likely discharge of 600 gallons would require deploying more than 900 “high-capacity” sorbent pads (20 inches by 20 inches) since each pad absorbs less than 0.7 gallons of oil. The same spill volume would require nine sorbent blankets, each measuring 38 inches by 144 feet and weighing approximately 40 pounds. The rapid deployment of such response equipment and material would be difficult to achieve under most circumstances, particularly if only a few individuals are present when the discharge occurs, or during adverse conditions (e.g., rainfall, fire).

The secondary containment approach implemented at a facility need not be “one size fits all.” Different approaches may be taken for the same activity at a given facility, depending on the material and location. For example, the SPCC Plan may specify that drain covers and sorbent material be pre-deployed prior to transfers of low viscosity oils in certain areas of a facility located in close proximity to navigable waters or drainage structures. For other areas and/or other products (e.g., highly viscous oils), the Plan may specify that sufficient spill response capability (spill response teams) are available for use in the event of a discharge, so long as personnel and equipment are available at the facility and these measures can be effectively implemented in a timely manner to prevent oil from reaching navigable waters and adjoining shorelines.

Additionally, oil-filled operational equipment (e.g., electrical transformers, capacitors, switches) poses unique challenges, and permanent (passive) containment structures, such as dikes, may not always be feasible. This type of oil-filled operational equipment is only subject to the general secondary containment provision, and the owner/operator may use the flexibility of active containment measures as described above. However, this method of containment may be risky because it requires the ability to detect a discharge, and these measures must be implemented *effectively and in a timely manner to prevent oil from reaching navigable waters and adjoining shorelines,* as required by §112.7(a)(3)(iii) and (c). The owner/operator may determine that these methods prove impracticable for a facility with oil-filled operational equipment (e.g., because of timeliness of a response). When secondary containment is impracticable, the certified SPCC Plan must document the reasons for impracticability; use a contingency plan in lieu of secondary containment; and provide a written commitment of manpower, equipment, and materials to expeditiously control and remove any quantity of oil discharged that may be harmful (§112.7(d)).

In certain circumstances, sorbents, such as socks, booms, pads, or loose materials, may be used to complement passive measures. Where berms around transfer areas are open on one side for access, and where the ground surface slopes away from the opening and from drains, for example, sorbent material may be effective in preventing small quantities of oil from escaping the bermed area in the event of a discharge.

Active measures are not appropriate for all situations with the potential for an oil discharge. As noted above, active measures often have limited absorption or containment capacity. Additionally, storage tanks, piping, and other containers pose a risk of discharge during off-hour periods when facility personnel are generally not on-site or are too few in number to detect a discharge in a timely manner and deploy the containment measure(s). Pre-deployment of active measures in a “fixed” configuration may be problematic since sorbent materials or portable barriers are typically not engineered for long-term deployment, and their performance may be affected by precipitation, ultraviolet light degradation, or cold temperature. Moreover, in some cases, the deployment of an active measure can interfere with other systems; for example, by impeding the proper operation of drainage structures (e.g., drain cover). For these reasons, EPA generally believes that dikes/berms, curbing, spill diversion ponds, or other similarly fixed, engineered structures remain the most effective means of spill control and containment for oil storage containers.

The SPCC Plan must describe the procedures used to deploy the active measures, explain how the use of active measures is appropriate to the situation, and explain the methods for discharge discovery that will be used to determine when deployment of the active measures is appropriate (§112.7(a)(3)(iii) and (iv)). It should, for instance, discuss whether active measures will be put in place before a potential discharge event (e.g., a boom placed around a vehicle before fueling activities begin) or whether the active measures will be deployed quickly after a spill occurs as a countermeasure (e.g., sorbents on hand to contain a spill should one occur). EPA also recommends that the Plan describe the amount of materials available and the location where they are stored, and the manpower required to adequately deploy the material in a timely fashion. Both the amount and location of materials should be determined based on good engineering practice, taking into consideration the potential volume of a discharge and the time necessary to deploy the measure to prevent a discharge to navigable waters or adjoining shorelines. Some of this information may already be described in other existing documents at the facility (i.e., BMPs) in which case, these documents should be referenced in the SPCC Plan and available at the time of an inspection.

There is a subtle but important difference between active containment measures (countermeasures, including land-based response capability) and an oil spill contingency plan as described in §112.7(d). Active secondary containment (as opposed to permanent or passive containment structures) requires a deployment action; it is put in place prior to or immediately upon discovery of an oil discharge. The purpose of these measures is *to contain an oil discharge before it reaches navigable waters or adjoining shorelines;* alternatively, a contingency plan, for SPCC purposes, is a detailed oil spill response plan developed when any form of secondary containment is determined to be impracticable. A contingency plan addresses controlling, containing, and recovering an oil discharge in quantities that may be harmful to navigable waters or adjoining shorelines. The purpose of a contingency plan should be both to outline response capability or countermeasures to limit the quantity of a discharge reaching navigable waters or adjoining shorelines (if possible), and to address *response to a discharge of oil that has reached navigable waters or adjoining shorelines.*

Evaluating the ability of active secondary containment measures deployed after a discharge to prevent oil from reaching navigable waters and adjoining shorelines involves considering the time it would take to discover the discharge, the time for the discharge to reach navigable waters or adjoining shorelines, and the time necessary to deploy the active secondary containment measure. For some active containment measures such as the use of sorbent materials, the amount of oil the secondary containment measure can effectively contain, including the potential impact of precipitation on sorption capacity, is a critical factor. EPA would expect good engineering practice to indicate that active secondary containment measures may be used to satisfy the general secondary containment requirements of §112.7(c). Generally, active containment measures may not be appropriate for satisfying the specific containment requirements for a major container failure. Furthermore, even when used to comply with §112.7(c), EPA recommends that active measures be limited to those situations where the PE has determined that the mostly likely discharge is a small volume.

4.2.7 Role of the EPA Inspector in Evaluating the Use of Active Measures of Secondary Containment

Inspectors should carefully evaluate the use of active measures and determine if the equipment and personnel are available for deployment of this secondary containment method. The EPA inspector should inspect the facility to determine whether the active measures are appropriate for the facility – i.e., the inspector should note whether material storage locations are reasonable given the time necessary to deploy measures, and whether the amount of available materials is sufficient to handle the anticipated discharge volume. In addition, the inspector should document whether the facility is keeping the necessary records.

Upon inspection, a facility owner/operator should be able to demonstrate that facility personnel are able to carry out the deployment procedure as written. The EPA inspector should verify that the facility's SPCC Plan contains the following items, and that items in the Plan are observed in the field and/or verified through discussions with facility personnel. Questions for the EPA inspector to consider in determining the adequacy of active measures are also provided below.

- Explanation showing why the use of active measures is appropriate.
  - What is the PE-determined expected/most likely potential discharge volume, and is the active measure appropriately sized to contain the spill?
  - What is the discharge detection method and is it appropriate?
  - How much time is required to deploy the selected active measure?
  - Given these factors, is the active measure a reasonable approach?

- Detailed description of deployment procedures.
  - Will active measures be put in place before a potential discharge event or after a spill occurs?
  - If measures are to be activated after a spill occurs, does the Plan describe the method of discharge detection?
  - Are the equipment and personnel available to deploy/implement the proposed active containment measure in an effective/timely manner to prevent oil from reaching navigable waters or adjoining shorelines?
  - Does the Plan identify drainage pathways and the appropriate deployment location for the active measures?

- Description of all necessary materials and the location where they are stored (i.e., location of drain covers, spill kits, or other spill response equipment).
  - In cases where spill kits or sorbent materials are to be used, does the Plan describe the amount of materials available?
  - Are inventory and/or maintenance logs provided to ensure that spill response equipment/materials are currently in good working condition (i.e., not damaged, expired, or used up)?
  - Are the equipment/materials located such that personnel can realistically get to the equipment and deploy it quickly enough to prevent a discharge to navigable waters or adjoining shorelines? That is, are the material and equipment accessible (not locked, key is available), and are they located close enough to the potential source of discharge?

- Description of facility staff responsible for deploying active measures.
  - Are training records up to date?
  - Have the personnel involved in activities for which the active measures might be deployed been trained (i.e., in location of materials, drainage conditions)?
  - Is there sufficiently trained facility staff present at all times to effectively deploy the measures in the event of a discharge?

4.2.8 "Sufficiently Impervious"

Section 112.7(c) states that the entire secondary containment system, "including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system ... will not escape containment before cleanup occurs." With respect to bulk storage containers at onshore facilities (except production facilities), §§112.8(c)(2) and 112.12(c)(2) state that diked areas must be "sufficiently impervious to contain oil." The purpose of the secondary containment requirement is to prevent discharges as described in §112.1(b); therefore, effective secondary containment methods must be able to contain oil until the oil is cleaned up. EPA does not specify permeability or retention time performance criteria for these provisions. Instead, EPA gives the owner/operator and the certifying PE flexibility in determining how best to design the containment system to prevent a discharge as described in §112.1(b). This determination is based on a good engineering practice evaluation of the facility configuration, product properties, and other site-specific conditions. For example, EPA believes that a sufficiently impervious retaining wall, or dike/berm, including the walls and floors, must be constructed so that any discharge from a primary containment system will not escape the secondary containment system before cleanup occurs and before the discharge reaches navigable waters and adjoining shorelines (§§112.7(c), 112.8(c)(2) and 112.12(c)(2)). Ultimately, the determination of imperviousness should be verified by the certifying PE.

The preamble to the 2002 SPCC rule states that "a complete description of how secondary containment is designed, implemented, and maintained to meet the standard of sufficiently impervious is necessary" (67 FR 47102). Therefore, pursuant to §112.7(a)(3)(iii) and (c), the Plan should address how the secondary containment is designed to effectively contain oil until it is cleaned up. Control and/or removal of vegetation may be necessary to maintain the imperviousness of the secondary containment and to allow for the visual detection of discharges. The owner or operator should monitor the conditions of the secondary containment structure to ensure that it remains impervious to oil. Repairs of excavations or other penetrations through secondary containment need to be conducted in accordance with good engineering practice.

The earthen floor of a secondary containment system may be considered "capable of containing oil" until cleanup occurs, or "sufficiently impervious" under §§112.7(c), 112.8(c)(2), and 112.12(c)(2), respectively, if there is no subsurface conduit to navigable waters allowing the oil to reach navigable waters before it is cleaned up. Should oil reach navigable waters or adjoining shorelines, it is a reportable discharge under 40 CFR part 110. The suitability of earthen material for secondary containment systems may depend on the properties of both the product stored and the soil. For example, compacted local soil may be suitable to contain a viscous product, such as liquid asphalt cement, but may not be suitable to contain gasoline. Permeability through the wall (or wall-to-floor interface) of the structure may result in an immediate discharge as described in §112.1(b).

In certain geographic locations the native soil (e.g., clay) may be determined as sufficiently impervious by the PE. However, there are many more instances where good engineering practice would generally not allow the use of a facility's native soil alone as secondary containment because the soil is not homogenous. In fact, certain state requirements may restrict the use of soil as a means of secondary containment, and many state regulations explicitly forbid the discharge of oil on soil. Pennsylvania's Storage Tank and Spill Prevention Act, for example, requires that facilities take immediate steps to prevent injury from any discharge of a substance that has the potential to flow, be washed or fall into waters, and endanger downstream users. The Act requires that residual substances be removed, within 15 days, from the ground or affected waters. Discharges to soil and groundwater may also violate other federal regulations. In addition, the EPA inspector should strongly urge facility owners and operators to investigate and comply with all state and local requirements. An inspector who notices potential violations under other statutes or regulations should contact the appropriate authorities for follow-up with the facility.

In summary, any of the owner/operator's determinations specifying whether secondary containment structures are capable of containing oil until it is cleaned up ("sufficiently impervious") should be made based on good engineering practice and may consider site-specific factors.

4.2.9 Role of the EPA Inspector in Evaluating "Sufficiently Impervious"

The EPA inspector should determine whether the facility's secondary containment is sufficiently impervious, based on a review of the SPCC Plan and on an observation of site conditions. The EPA inspector may ask to see any calculations/engineering justifications used in determining levels of imperviousness; this information, including calculations, should be maintained with the Plan to facilitate the inspector's review. To determine whether secondary containment is sufficiently impervious, the inspector may consider the following:

- Whether the SPCC Plan describes how secondary containment is designed, implemented, and maintained. The certification of the Plan's adequacy is the responsibility of the PE and a determination of sufficient imperviousness may be based strictly on geotechnical knowledge of soil classification and best engineering judgment. The inspector may also review records of hydraulic conductivity tests, if such tests were conducted to ascertain the imperviousness of the secondary containment structure. The inspector may also review drainage records that are required to be kept by the facility owner/operator in accordance with §112.8(c)(3), §112.9(b)(1), or §112.12(c)(3). If, for example, facility personnel never drain the outdoor containment, then the inspector may pose follow-up questions to clarify how the facility removes precipitation after heavy rainfall, since lack of rainfall accumulation could indicate that the water is escaping the containment structure through the walls or floor.

- For bulk storage facilities (excluding production) subject to §112.8 or §112.12, procedures on how the facility minimizes and evaluates the potential for corrosion of container bottoms/bases that cannot be visually inspected. Corrosion of container bottom is addressed in part by integrity testing of bulk storage containers under §112.8(c)(6) or §112.12(c)(6). If a facility owner/operator cannot certify that the material under the container is sufficiently impervious (whether earthen or manmade), the inspector should consider:

- Whether the inspection and integrity testing program in the Plan includes an internal inspection in the scope of the container integrity testing program in accordance with industry standards. This internal inspection should include the bottom plate. Since the bottom plate cannot be examined from the underside, the only inspection available is to assess the fitness of the bottom plate via an internal inspection. (See Chapter 7 of this document for more information on integrity testing.)
- Whether the facility has the ability to detect oil discharges from a container bottom in order to commence cleanup before a discharge escapes the containment systems.

- Evidence of stained soil or stressed vegetation outside the containment area as well as at nearby outfalls or other areas affected by runoff from the secondary containment structure. For example, at onshore production facilities, there may be oil stains or white areas and white salt crystal deposits on the outside of berm walls and on the ground surface farther away from the berm. These deposits may indicate that produced water has flowed through the secondary containment and that the structure may not be sufficiently impervious.

- How the secondary containment is constructed (materials and method of construction). Look for the type of soil (if soil is used). Floor and walls constructed of sandy material, for example, may not be appropriate to hold refined products such as gasoline. If earthen material is used, EPA recommends that it have a high clay content and be properly compacted, not simply formed into a mound. Untreated cinder blocks used for containment should be closely evaluated by an inspector due to their porous nature.

- If a facility considers the earthen floor of a secondary containment system to be sufficiently impervious, the inspector should consider any underground pathway that could lead to navigable waters.

4.2.10 Facility Drainage (Onshore Facilities)

Control of Drainage from Dikes and Berms

When containment methods such as dikes and berms are used to satisfy the secondary containment requirements of the rule such as §§112.7(c) and 112.8(c)(2), the specific facility drainage requirements also apply. The specific requirements for diked areas at onshore facilities (except production) are found in §§112.8(b)(1), 112.8(b)(2), 112.12(b)(1), and 112.12(b)(2); for diked areas at onshore production facilities they are found in §112.9(b)(1). Drainage from diked storage areas can be accomplished by several means such as valves, manually activated pumps, or ejectors. If dikes are drained using valves, they must be of manual design to prevent an uncontrolled discharge outside of the dike, such as into a facility drainage system or effluent treatment system, except where facility systems are designed to control such a discharge (§§112.8(b)(1) and 112.12(b)(1)). At oil production facilities, drains on secondary containment systems (both dikes and other equivalent measures required under §112.7(c)(1)) must be closed and sealed at all times, except when draining uncontaminated rainwater (§112.9(b)(1)). Although not required by the rule, owners and operators should strongly consider locking valves controlling dike or remote impoundment areas, especially when they can be accessed by non-facility personnel.

For diked areas serving as secondary containment for bulk storage containers, §§112.8(c)(3) and 112.12(c)(3) require that storm water accumulations be inspected for the presence of oil and records of the drainage events must be maintained. Section 112.9(b)(1) requires that oil production facilities comply with the same drainage procedures for diked areas as other types of onshore facilities under §112.8(c)(3)(ii) through (iv). EPA inspectors should evaluate facility records to verify compliance with the drainage procedures described in §112.8(c)(3). Any storm water discharge records maintained at the facility in accordance with the NPDES rules in §122.41(j)(2) or 122.41(m)(3) are acceptable under §§112.8(c)(3)(iv) and 112.12(c)(3)(iv).

§§112.8(b) and 112.12(b) *Facility drainage*.
(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.
(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.
(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.
(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.
(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Facility Drainage Control

When secondary containment requirements are addressed through facility drainage controls, the requirements in §112.8(b)(3) and (4), or §112.12(b)(3) and (4) apply. For example, a facility may choose to use the existing storm drainage system to meet secondary containment requirements by channeling discharged oil to a remote containment area to prevent a discharge as described in §112.1(b). The facility drainage system must be designed to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. Catchment basins must not be located in areas subject to periodic flooding (§§112.8(b)(3) and 112.12(b)(3)).

A facility does not have to address the undiked area requirements of §112.8(b)(3) and (4) or §112.12(b)(3) and (4) if the facility does not use drainage systems to meet one of the secondary containment requirements in the SPCC rule. For example, if the SPCC Plan documents the use of an active containment measure (such as a combination of sorbents and a spill mat), which is effective to prevent a discharge as described in §112.1(b), then secondary containment has been provided and it is not necessary to alter drainage systems at the facility. The facility drainage system design requirements in §112.8(b)(3) and (4) or §112.12(b)(3) and (4) apply only when the facility uses these drainage systems to comply with the secondary containment provisions of the rule such as §§112.7(c) and 112.8(c)(2).

The EPA inspector should determine if the facility's documentation in the Plan identifies whether the final ponds, lagoons, or catchment basins are designed/sized to meet the appropriate general and/or specific secondary containment requirements. The following examples help to illustrate how to determine the appropriate size of the ponds, lagoons, or catchment basins:

- **General Secondary Containment.** A facility owner/operator may use a storm water drainage system that flows to a containment pond to address the general containment requirements of §112.7(c) for a piece of operational equipment (including electrical oil-filled equipment). The pond/drainage system should be designed to contain the volume of oil likely to be discharged as determined according to good engineering practice and documented in the SPCC Plan. The capacity of the secondary containment required is that which is necessary to meet the general containment requirement based on a likely discharge (not necessarily a major container failure).

- **Specific Secondary Containment.** If a facility owner/operator uses a storm water drainage system that flows to a catchment basin to comply with the specific containment requirements of §112.8(c)(2) for a bulk storage container, the pond/drainage system must be designed to contain the capacity of the largest bulk storage container (with appropriate freeboard for precipitation) as dictated by the rule's requirements. The specific containment requirement is based on a major container failure in which the entire capacity of the container is discharged.

- **General and Specific Secondary Containment.** In a case where a drainage system to a final catchment basin is used to meet multiple secondary containment needs for the facility, including compliance with both general and specific containment requirements, the system's design will need to meet the most stringent rule requirement (typically the specific secondary containment requirement).

The facility drainage requirements of §§112.8(b) and 112.12(b) are design standards for secondary containment (not additional secondary containment requirements) and are therefore eligible for deviations that provide equivalent environmental protection in compliance with §112.7(a)(2) and as determined appropriate by a PE. Chapter 3 of this guidance document, Environmental Equivalence, includes a further discussion on ways to evaluate whether facility drainage systems that deviate from the specified design standards are "environmentally equivalent" and comply with §112.7(a)(2).

4.2.11 Role of the EPA Inspector in Evaluating Onshore Facility Drainage

The EPA inspector should review the facility's SPCC Plan to ensure that the drainage procedures are documented and records are maintained. The inspector should also examine the facility to determine whether the drainage procedures are implemented as described in the SPCC Plan and whether they are appropriate for the facility. If a facility uses drainage systems to meet one or more secondary containment requirements, the inspector should evaluate whether the final ponds, lagoons, or catchment basins are designed/sized in accordance with the appropriate general and/or specific secondary containment requirements. The inspector should also evaluate the facility records to verify compliance with the drainage procedures described in §112.8(c)(3).

4.3 Overview of the Impracticability Determination Provision

EPA recognizes that, although engineered passive containment systems (such as dikes and drainage systems) or active secondary containment approaches are preferable, they may not always be practicable. If a facility owner/operator finds that containment methods are "impracticable," alternative modes of protection to prevent and contain oil discharges are available. The impracticability provision found in §112.7(d) allows facility owners/operators to substitute a combination of other measures in place of secondary containment: (1) periodic integrity testing of bulk storage containers and periodic integrity testing and leak testing of the valves and piping associated with the containers; (2) unless they have submitted a Facility Response Plan (FRP) under §112.20, an oil spill contingency plan; and (3) a written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful.

> **§112.7(d)**
> If you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:
> (1) An oil spill contingency plan following the provisions of part 109 of this chapter.
> (2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

If an impracticability determination is made, the SPCC Plan must clearly describe why secondary containment measures are impracticable and how the specified additional measures are implemented (§112.7(d)). See Section 4.5 of this chapter for more information on the additional measures. The option of determining impracticability assumes that it is feasible to effectively and reliably implement a contingency plan. Facilities should be aware that an impracticability determination may affect the applicability of the FRP requirements under 40 CFR part 112 subpart D. In addition, an impracticability determination may affect the calculation of the worst case discharge volume, which may impact the amount of resources required to respond to a worst case discharge scenario.

4.3.1 Meaning of "Impracticable"

The impracticability determination is intended to be used when a facility owner/operator is incapable of installing secondary containment by any reasonable method. Considerations include space and geographical limitations, local zoning ordinances, fire codes, safety, or other good engineering practice reasons that would not allow for secondary containment (67 FR 47104). EPA clarified in a *Federal Register* notice that economic cost may be considered as one element in a decision on alternative methods, consistent with good engineering practice for the facility, but may not be the only determining factor in claiming impracticability (see text box below).

Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule

"The Agency did not intend with [preamble language at 67 FR 47104] to opine broadly on the role of costs in determinations of impracticability. Instead, the Agency intended to make the narrower point that secondary containment may not be considered impracticable solely because a contingency plan is cheaper. (This was the concern that was presented by the commenter to whom the Agency was responding.) ...

In addition, with respect to the emphasized language enumerating considerations for determinations of impracticability, the Agency did not intend to foreclose the consideration of other pertinent factors. In fact, in the response-to-comment document for the SPCC amendments rulemaking, the Agency stated that "... for certain facilities, secondary containment may not be practicable because of geographic limitations, local zoning ordinances, fire prevention standards, *or other good engineering practice reasons*."

The above text is an excerpt from 69 FR 29728 (May 25, 2004).

4.4 Selected Issues Related to Secondary Containment and Impracticability Determinations

Section 112.7(d) lists the provisions of the SPCC rule for which facility owners or operators may determine impracticability. Issues related to the use of impracticability determinations for selected secondary containment requirements are discussed below. Requirements under each provision are summarized below, along with a discussion of selected issues. Only secondary containment requirements can be determined to be impracticable; for most other technical requirements, the rule provides flexibility to facility owners or operators to implement alternative measures that provide equivalent environmental protection (see Chapter 3 of this guidance document for more information on the environmental equivalence provision).

4.4.1 General Secondary Containment Requirements, §112.7(c)

The secondary containment requirements found in §112.7(c) apply to any area within a regulated facility where a discharge may occur. Piping, flowlines, non-bulk containers such as oil-filled operational equipment and manufacturing equipment, and non-rack transfer areas are subject to the general secondary containment requirements. A discussion of issues related to secondary containment for piping and flowlines, transfer areas, and certain oil-filled equipment follows.

Piping and Flowlines

Examination of discharge reports from the Emergency Response Notification System (ERNS) shows that discharges from valves, piping, flowlines, and appurtenances are much more common than catastrophic tank failure or discharges from tanks (67 FR 47124). To prevent a discharge as described in §112.1(b), all piping, including buried piping and flowlines, at regulated facilities must comply with the general secondary containment requirements contained in §112.7(c).

In certain cases, secondary containment for piping will be possible. Section 112.7(c) provides flexibility in the method of secondary containment: active measures including land-based response capability, sorbent materials, drainage systems, and other equipment are acceptable. Section 112.7(c) does not prescribe a specific containment size for piping and flowlines; however, good engineering practice prescribes that containment size should be based on the magnitude of a reasonable discharge scenario, taking into consideration the specific features of the facility and operation. A determination of adequate secondary containment should consider the reasonably expected sources, maximum flow rate, duration of a discharge, and detection capability. The EPA inspector should ensure that the secondary containment method for piping and flowlines is documented in the SPCC Plan and that the PE has certified that the method is appropriate for the facility according to good engineering practice. If active methods of containment are selected, the facility personnel should be able to demonstrate that they can effectively deploy these measures to contain a potential spill before it reaches navigable waters or adjoining shorelines.

EPA acknowledges that in many cases, secondary containment may not be practicable for flowlines and gathering lines. For example, a production facility in a remote area may have many miles of flowlines and gathering lines, around which it would not be practicable to build permanent containment structures. For instance, it may not be possible to install secondary containment around flowlines running across a farmer's or rancher's fields since berms may become severe erosional features of the fields and can impede access to the fields by farm/ranch tractors and other equipment. Similarly, it may be impracticable to construct secondary containment around flowlines that run along a fence line or county road due to space limitations or intrusion into a county's property or right-of-way. At unmanned facilities, the use of active secondary containment methods is not possible because there is limited capability to detect a discharge and deploy active measures in a timely fashion. If secondary containment is not practicable, facility owners/operators may make an impracticability determination and comply with the additional regulatory requirements described in §112.7(d).

The preamble of the 2002 SPCC rule (67 FR 47078) states that the contingency plan required when secondary containment is not practicable for flowlines and gathering lines should rely on strong maintenance, corrosion protection, testing, recordkeeping, and inspection procedures to prevent and quickly detect discharges from such lines. It should also ensure quick availability and deployment of response equipment. The integrity testing program for piping and valves should also be developed in accordance with good engineering practice, in order to prevent a discharge as described in §112.1(b). A flowline maintenance program is required for production facilities under §112.9(d)(3). (See Chapter 7 of this document for a summary of the recommended key elements of a flowline maintenance program.) It is especially important that facility owners or operators who determine that secondary containment is impracticable implement a comprehensive flowline maintenance program. If an impracticability determination is made for flowlines or gathering lines, EPA inspectors should extensively and carefully review the adequacy of the flowline maintenance program. According to practices recommended by industry groups such as API, a comprehensive piping program should include the following elements:

- **Prevention measures** that avert the discharge of fluids from primary containment;
- **Detection measures** that identify a discharge or potential for a discharge;
- **Protection measures** that minimize the impact of a discharge; and
- **Remediation measures** that mitigate discharge impacts by relying on limited or expedited cleanup.

In order for a contingency plan to be effective, it is essential for discharges to be detected in a timely manner. Good engineering practice may require that unmanned facilities where secondary containment is impracticable be inspected more frequently than would be required at a typical unmanned facility where secondary containment is provided. For facilities that do not have a Facility Response Plan (FRP) pursuant to §112.20, if it is not feasible to effectively and reliably implement a contingency plan, owners/operators must determine how to comply with the applicable secondary containment requirements in §112.7(c). A contingency plan or FRP is required when a determination of impracticability is made, pursuant to §112.7(d).

Transfer Areas

A transfer operation is one in which oil is moved from or into some form of transportation, storage, equipment, or other device, into or from some other or similar form of transportation, such as a pipeline, truck, tank car, or other storage, equipment, or device (67 FR 47130). Areas where oil is transferred but no loading or unloading rack is present are subject to §112.7(c), and thus appropriate containment and/or diversionary structures are required. EPA does not require specifically sized containment for transfer areas; however, containment size must be based on good engineering practice (§112.3(d)).

The containment requirement at §112.7(c) applies to both loading and unloading areas. Examples of activities that occur within transfer areas include:

- Unloading oil from a truck to a heating oil tank;
- Loading oil into a vehicle from a dispenser; and
- Transferring crude oil from an oil production tank battery into tank trucks.

Secondary containment size should be based on the magnitude of a most likely discharge, taking into consideration the specific features of the facility and operation. Specific features of different loading/unloading operations include the hardware, procedures, and personnel who are able to take action to limit the volume of a discharge. EPA recommends that a determination of adequate secondary containment consider:

- **The reasonably expected sources and causes of a discharge.** This could be a failed hose connection; failed valve; overfill of a container, tank truck, or railroad tank car; or breach of a container. Determination would be based on the type of transfer operation, facility experience and spill history, potential for human error, etc.
- **The reasonably expected maximum rate of discharge.** This will be dependent on the mode of failure. It may be equal to the maximum rate of transfer or the leakage rate from a breached container.
- **The ability to detect and react to the discharge.** This will be dependent on the availability of monitoring instrumentation for prompt detection of a discharge and/or the proximity of personnel to detect and respond to the discharge.
- **The reasonably expected duration of the discharge.** This will be dependent on the availability of manual or automatic isolation valves, the proximity of qualified personnel to the operation, and other factors that may limit the volume of a discharge.
- **The time it would take a discharge to impact navigable waters or adjoining shorelines.** This could depend on the proximity to waterways and storm drains, and the slope of the ground surface between the loading area and the waterway or drain.

An example calculation of secondary containment size, based on these considerations, is provided in Figure 4-7.

Figure 4-7. Sample calculation of appropriate secondary containment capacity at a transfer area.

Scenario:
A fuel truck is loading oil into a heating oil tank at a regulated facility, with an attendant present throughout the operation.

Details:

- The truck is loading at a rate of **150** gallons per minute.
- The reasonably expected source and cause of a discharge is a ruptured hose connection.
- A shutoff valve is present on the loading line and is accessible to the attendant.
- An evaluation determines that the discharge will not impede the attendant's access to the shutoff valve and that he can safely close the valve within 10 seconds of the hose connection rupture, based on past experience under similar circumstances; 15 seconds is assumed to be a conservative estimate of the response time.

Calculations:
The maximum reasonably expected discharge would be calculated to be 150 gallons:

[(150 gal/min) x (1 min/60 sec) x (15 sec)] = 37.5 gallons

Conclusion:
Secondary containment volume should be at least 37.5 gallons. A larger volume for secondary containment would be needed if time required to safely close the shutoff valve takes longer than 10 seconds.

A number of other factors may also affect the appropriate volume for secondary containment at loading and unloading areas. These factors include a variable rate of transfer; the ability to control a discharge from a breached container, if such a breach is reasonably expected to occur; the availability of personnel in close proximity to the operations and the necessary time to respond; the presence or absence of monitoring instrumentation to detect a discharge; the type and location of valving that may affect the probable time needed to stop the discharge; and the presence or absence of automatic valve actuators. These are a few examples of the factors that a PE may consider when reviewing the adequacy of secondary containment systems at a facility. The EPA inspector may consider the same factors when assessing the adequacy of secondary containment.

Secondary containment structures, such as dikes or berms, may not be appropriate in areas where vehicles continuously need access; however, curbing, drainage systems, active measures, or a combination of these systems can adequately fulfill the secondary containment requirements of §112.7(c). A facility owner or operator may implement methods for secondary containment other than dikes or berms. For example, a transfer truck loading area at an onshore oil production facility may be designed to drain discharges away to a topographically lower area using a crescent or eyebrow-shaped berm. EPA acknowledges that in certain situations, secondary containment at transfer areas may be impracticable due to geographic limitations, fire codes, etc. In these cases, owners/operators may determine that secondary containment is impracticable under §112.7(d), and must clearly explain the reasons why secondary containment is not practicable and comply with the additional regulatory requirements.

Oil-Filled Equipment

Secondary containment may be impracticable for oil-filled equipment (e.g., vaulted transformers, hydraulic units associated with an elevators/lifts, pad-mounted transformers at customer sites, and oil-filled cable systems) that are not readily accessible or cross properties belonging to different owners. In these cases, the SPCC Plan must clearly explain the reasons why secondary containment is not practicable and comply with the additional regulatory requirements under §112.7(d). For more information on oil-filled operational equipment, refer to Section 2.8.2 of this guidance document.

4.4.2 Secondary Containment Requirements for Loading/Unloading Racks, §112.7(h)(1)

Section 112.7(h) applies to areas at regulated facilities where traditional loading/unloading racks for tank cars and tank trucks are located. Loading and unloading racks are subject to the specific secondary containment requirements in §112.7(h)(1).

EPA inspectors should evaluate compliance with the requirements of §112.7(h) for equipment traditionally considered to be "loading racks." While the SPCC rule does not provide a definition for the term "rack," the type of equipment for which these requirements would typically apply has the following characteristics:

> **§112.7(h)**
> *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities)*.
> (1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

- The equipment is a permanent structure for loading or unloading a tank truck or tank car that is located at a regulated facility.
- The equipment may be comprised of piping assemblages, valves, loading arms, pumps, or a similar combination of devices.
- The system is necessary to load or unload tank trucks or tank cars.
- The system may also include shut-off devices and overfill sensors.

EPA clarified that the provisions of §112.7(h) apply only in instances where a rack structure is present. (See text box below.)

Loading racks can be located at any type of facility; however, the loading areas associated with a production tank battery generally do not have the equipment described above, which is often associated with a "loading rack." Loading/unloading areas utilizing a single hose and connection or standpipe are not considered "racks."

Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule

"[W]e interpret §112.7(h) only to apply to loading and unloading 'racks.' Under this interpretation, if a facility does not have a loading or unloading 'rack,' §112.7(h) does not apply. Thus, in stating that section 112.7(h) applies to 'all facilities, including production facilities,' the Agency only meant that the provision applies *if* a 'facility' happens to have a loading or unloading rack present. The Agency did not mean to imply that any particular category of facilities, such as production facilities, are likely to have loading or unloading racks present."

The above text is an excerpt from 69 FR 29728 (May 25, 2004).

Where drainage from the areas surrounding a loading/unloading rack does not flow into a catchment basin or treatment facility designed to handle discharges, facility owners and operators must use a quick drainage system (§112.7(h)(1)). A "quick drainage system" is a device that drains oil away from the loading/unloading area to some means of secondary containment or returns the oil to the facility. Section 112.7(h)(1) requires a sized secondary containment system: the containment must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

Loading and unloading activities that take place beyond the rack area are not subject to the requirements of §112.7(h), but are subject, where applicable, to the general containment requirements of §112.7(c). For more information on these requirements, see Section 4.4.1, Transfer Areas.

Letter to Petroleum Marketers Association of America

"[T]he Agency does not interpret §112.7(h) to apply beyond activities and/or equipment associated with tank car and tank truck loading/unloading racks. Therefore, loading and unloading activities that take place beyond the rack area would not be subject to the requirements of 40 CFR §112.7(h) (but, of course, would be subject, where applicable, to the general containment requirements of 40 CFR §112.7(c))."

The above text is an excerpt from a letter to Daniel Gilligan, President, Petroleum Marketers Association of America, from Marianne Lamont Horinko, Assistant Administrator, EPA, May 25, 2004. Found at www.epa.gov/oilspill/pdfs/PMAA_letter.pdf.

Figures 4-8 and 4-9 illustrate how SPCC secondary containment requirements apply at two facilities with loading/unloading areas and with equipment that may be considered loading/unloading racks. In Figure 4-8, the facility has two separate and distinct areas for transfer activities. One is a tank truck unloading area and the other contains a tank truck loading rack. The unloading area contains no rack structure, so the secondary containment requirements of §112.7(c) apply. The requirements of §112.7(h)(1) apply to the area surrounding the loading rack. It should be noted that the presence of a loading rack at one location of a facility does not subject other loading or unloading areas in a separate part of the facility to the requirements of §112.7(h).

In Figure 4-9, the tank truck loading rack and unloading area are co-located. In this situation, the more stringent provision applies; the area is subject to the sized secondary containment requirements of §112.7(h)(1).

EPA acknowledges that in certain situations, the sized secondary containment requirements of §112.7(h)(1) at loading/unloading racks may be impracticable due to geographic limitations, fire codes, etc. In these cases, the owner or operator may determine that secondary containment is impracticable as provided in §112.7(d). Under that provision, the SPCC Plan must clearly explain the reasons why secondary containment is not practicable, and comply with the additional regulatory requirements.

Figure 4-8. Facility with separate unloading area and loading rack. The tank truck unloading area is subject to §112.7(c). The tank truck loading rack is subject to §112.7(h)(1).

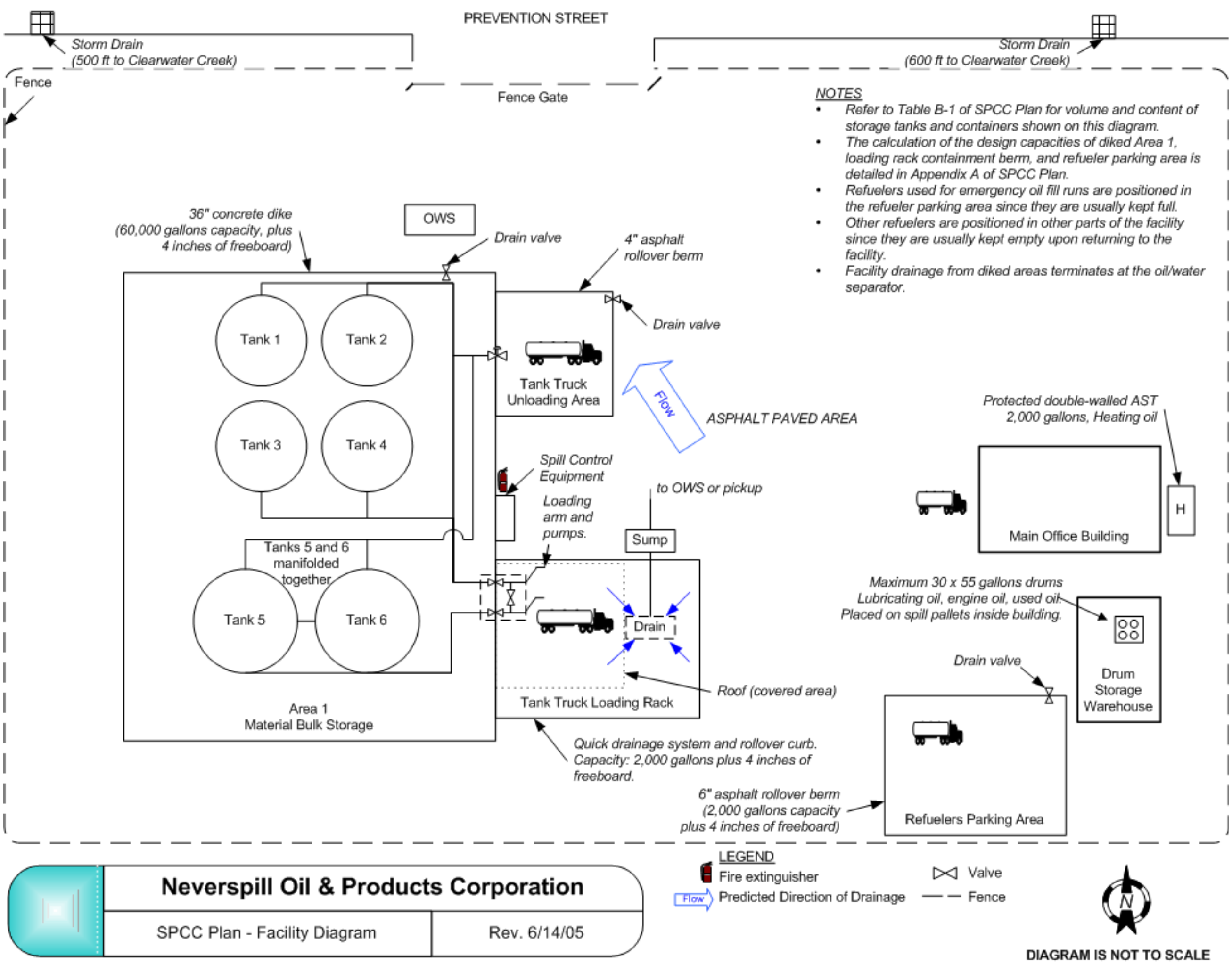
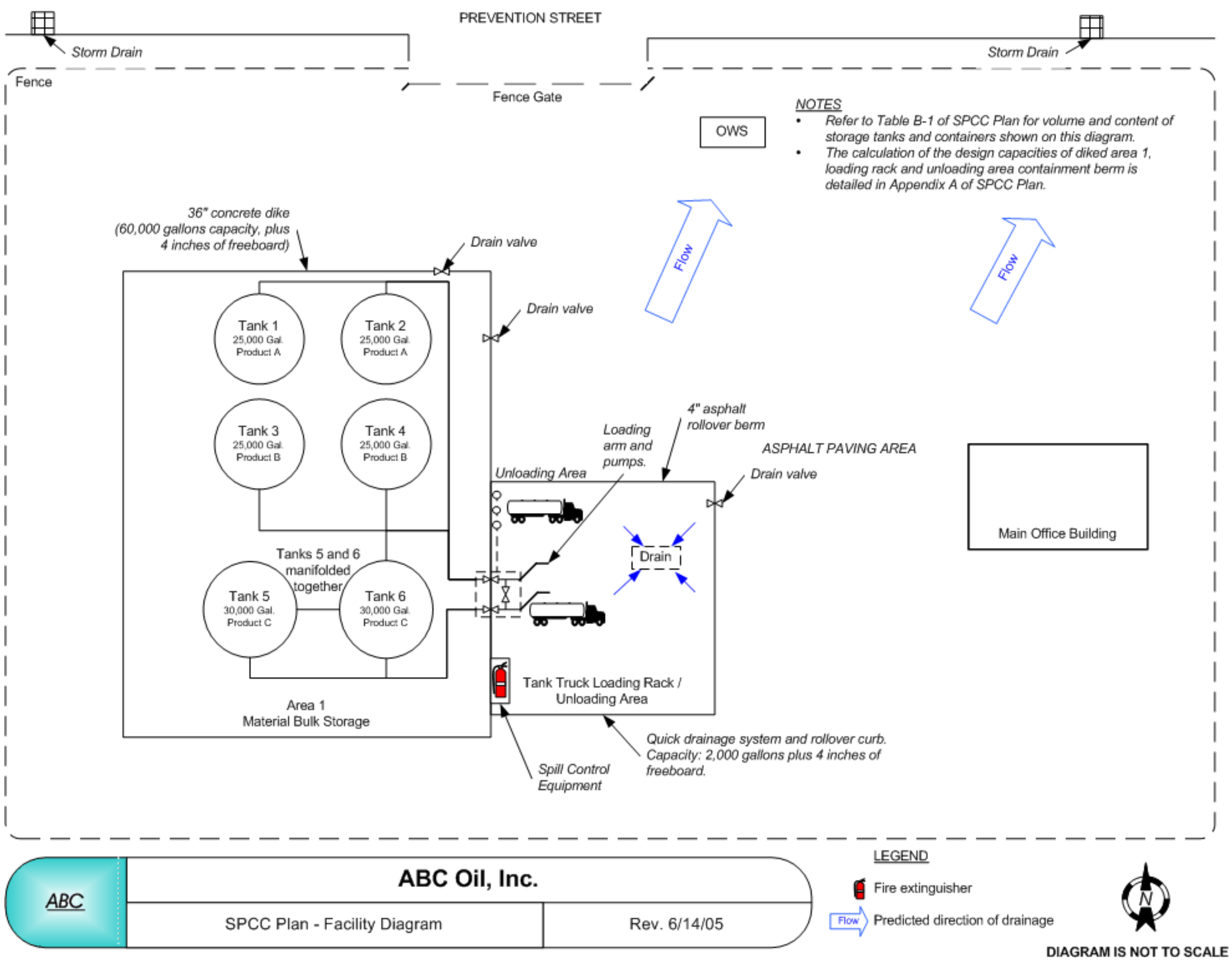


Figure 4-9. Facility with co-located unloading area and loading rack. This containment area is designed to meet the more stringent §112.7(h)(1) provision.



4.4.3 Secondary Containment Requirements for Onshore Bulk Storage Containers, §112.8(c)(2)

Under the SPCC rule, a bulk storage container is any container used to store oil with a capacity of 55 gallons or more (§§112.1(d)(5) and 112.2). Bulk storage containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled pieces of electrical, operating, or manufacturing equipment are not considered bulk storage containers.

> **§§112.8(c)(2) and 112.12(c)(2)**
> Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Bulk storage containers at a regulated facility must comply with the specific secondary containment requirements of §112.8(c)(2). For bulk storage containers, secondary containment must hold the entire capacity of the largest single container and sufficient freeboard to contain precipitation. (For more information on sufficient freeboard, see the discussion in Section 4.2.4 of this chapter.) Secondary containment is required for all facilities with bulk storage containers, large or small, manned or unmanned, and for facilities with bulk storage containers that also have oil-filled equipment (specific secondary containment requirements do not apply to oil-filled equipment).

Section 112.8(c)(2) considers the use of dikes, containment curbs, and pits as secondary containment methods, or an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond. Dikes contain oil in the immediate vicinity of the storage container. Remote impoundment drains discharge to an area located away from the container. Examples of design considerations and requirements for these types of containment are set forth in the National Fire Protection Association (NFPA) 30 Flammable and Combustible Liquids Code.

The owner or operator may determine that secondary containment is impracticable under §112.7(d), when he/she, or the PE certifying the Plan, determines that it is not practicable to design a secondary containment system that can hold the capacity of the largest single container plus sufficient freeboard. The EPA inspector should verify that the SPCC Plan clearly explains why secondary containment is not practicable, and that the facility is complying with the additional regulatory requirements, such as conducting both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping (§112.7(d)). For further information on the additional regulatory requirements, see Section 4.5 of this guidance.

4.4.4 Secondary Containment Requirements for Mobile/Portable Containers, §112.8(c)(11)

> **§§112.8(c)(11) and 112.12(c)(11)**
> Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). You must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

Mobile or portable oil storage containers operating exclusively within the confines of a non-transportation-related facility with a capacity to store 55 gallons or more of oil are regulated under the SPCC rule and must comply with the secondary containment requirements of §112.8(c)(11) (or §112.12(c)(11) in the case of a facility that stores or handles animal fats or vegetable oils).

The 1971 Memorandum of Understanding between EPA and the Department of Transportation (DOT) states that "highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a non-transportation-related facility and which are not intended to transport oil in interstate or intrastate commerce" are considered non-transportation-related, and therefore fall under EPA's regulatory jurisdiction. For example, some oil refinery tank trucks and fueling trucks dedicated to a particular facility (such as a construction site, military base, or similar large facility) fall under this category. Other examples of mobile portable containers include, but are not limited to, 55 gallon drums, skid tanks, totes, and intermodal bulk containers.

Vehicles used to store oil, operating as on-site fueling vehicles at locations such as construction sites, military, or civilian remote operations support sites, or rail sidings are generally considered non-transportation-related. Indicators describing when a vehicle is intended to be used as a storage tank (and therefore considered non-transportation-related) include, but are not limited to:

- The vehicle is not licensed for on-road use;
- The vehicle is no longer mobile (i.e., hard-piped or permanently parked);
- The vehicle is fueled on-site and never moves off-site; and
- The vehicle is parked on a home-base facility and is filled up off-site but then returns to the home base to fuel other equipment located exclusively within the home-base facility, and only leaves the site to obtain more fuel.

According to §§112.8(c)(11) and 112.12(c)(11), mobile or portable containers must be positioned or located to prevent a discharge to navigable waters as described in §112.1(b). The provision requires that the secondary containment be sized to hold the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

The appropriate containment methods for mobile containers may vary depending on the activity in which the container is engaged at a given time. Thus, secondary containment requirements may be met differently depending upon the type of operation being performed, as described in the examples below.

When mobile containers are in a stationary, unattended mode and not under the direct oversight or control of facility personnel, the requirements of §§112.8(c)(11) and 112.12(c)(11) may be met through the use of permanent secondary containment methods, such as dikes, curbing, drainage systems, and catchment basins. In order to comply with this requirement, an owner/operator may designate an area of the facility in which to locate mobile containers when not in use; this area must be designed, following good engineering practices, to hold the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation. The area designated for mobile equipment must be identified on the facility diagram provided within the SPCC Plan (§112.7(a)(3)).

When mobile containers are involved in activities such as normal fuel transfer, on-site movement, or preparation for such activities in "stand-by" mode, the requirements of §112.8(c)(11) do not apply because the container is not "positioned" and therefore the less stringent requirements of §112.7(c) apply. This requirement may be satisfied through the use of drainage systems that could ultimately control spilled oil. Alternatively, other measures listed in the general secondary containment provision under §112.7(c) may be used, including active measures such as sorbents, booms, or response actions that prevent an oil discharge from reaching navigable waters and adjoining shorelines. In these cases, a member of the facility personnel should (as determined by good engineering practice) be in physical control and attending to the mobile or portable storage container. When the mobile refueler is not engaged in one of the activities listed above, it must be positioned to prevent a discharge and provided with secondary containment large enough for the single compartment or container with sufficient freeboard for precipitation (§112.8(c)(11)).

Mobile containers, such as drums, skids, and totes, must also comply with the requirements of §112.8(c)(11) or §112.12(c)(11) according to good engineering practice. For these types of containers, the EPA inspector should verify that the secondary containment methods are appropriate. For example, an oil-filled drum positioned for use at a construction site must be equipped with secondary containment sized in accordance with §112.8(c)(11). The facility owner or operator may determine that it is impracticable to provide sized secondary containment in accordance with §112.8(c)(11), when the container is in stationary or unattended mode, or the general containment of §112.7(c), pursuant to §112.7(d). The SPCC Plan must properly explain why secondary containment is impracticable, and document the implementation of the additional regulatory requirements of §112.7(d).

4.4.5 Secondary Containment Requirements for Bulk Storage Containers at Production Facilities, §112.9(c)(2)

> **§112.9(c)(2)**
> Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.
>
> Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

The secondary containment requirements of §112.9(c)(2) apply to all tank battery, separation, and treating facility installations at a regulated production facility. This specific secondary containment requirement does not apply to the entire lease area, but only to tanks, vessels, and containers in the tank battery, separation, and treatment areas.

Section 112.9(c)(2) is a specific secondary containment requirement; the containment structure or measure must be able to contain the entire capacity of the largest single container and sufficient freeboard to contain precipitation. (Refer to Section 4.2.4 of this chapter for more information on calculating sufficient freeboard.) Additionally, pursuant to §112.9(c)(2), if facility drainage is used as a method of secondary containment for bulk storage containers, drainage from undiked areas must be safely confined in a catchment basin or holding ponds. Secondary containment should be sufficiently impervious to contain oil; refer to Section 4.2.8 of this chapter for more information. The undiked drainage requirements of §112.9(c)(2) do not apply to other areas of the facility or lease, such as truck transfer or wellhead or flowline areas because they are not bulk storage containers. According to the 2002 rule preamble, "the [secondary containment] requirement applies to oil leases of any size. Secondary containment is not required for the entire leased area, merely for the contents of the largest single container in the tank battery, separation, and treating facility installation, with sufficient freeboard to contain precipitation." (67 FR 47128).

The facility owner/operator may determine that it is impracticable to provide sized secondary containment in accordance with §112.9(c)(2). Pursuant to §112.7(d), the SPCC Plan must clearly explain why secondary containment is not practicable, and document how the additional regulatory requirements of §112.7(d) are implemented. Owners or operators of unmanned facilities may need to determine how to effectively implement a contingency plan. This may involve additional site inspections, or some other method as determined appropriate by a Professional Engineer.

☞ **Tip**

Because a pit used as a form of secondary containment may pose a threat to birds and wildlife if oil is present in the pit, EPA encourages owners or operators who use a pit to take measures to mitigate the effect of the pit on birds and wildlife. Such measures may include netting, fences, or other means to keep birds or animals away. In some cases, pits may also cause a discharge as described in §112.1(b). The discharge may occur when oil spills over the top of the pit or when oil seeps through the ground into the groundwater, and then to navigable waters or adjoining shorelines. Therefore, EPA recommends that an owner or operator not use pits in an area where such pit may prove a source of such discharges. Should the oil reach navigable waters or adjoining shorelines, it is a reportable discharge under 40 CFR 110.6. (67 FR 47116)

4.4.6 Secondary Containment Requirements for Onshore Drilling or Workover Equipment, §112.10(c)

Section 112.10(c) applies to onshore oil drilling and workover facilities. Areas with drilling and workover equipment are required to provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids. This provision contains no specific sizing requirement, and no freeboard requirement; it is essentially very similar to the general containment requirement of §112.7(c).

§112.10(c)
Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

Note: The above text is an excerpt of the SPCC rule. See 40 CFR part 112 for the full text of the rule.

The facility owner/operator may determine that it is impracticable to provide secondary containment in accordance with §112.10(c). Pursuant to §112.7(d), the SPCC Plan must clearly explain why secondary containment is not practicable, and document how the additional regulatory requirements of §112.7(d) are implemented.

4.5 Measures Required in Place of Secondary Containment

Pursuant to §112.7(d), if secondary containment is impracticable for any area where secondary containment requirements apply, facility owners or operators must clearly explain in the SPCC Plan why such secondary containment is impracticable and implement additional requirements. This section describes these additional requirements.

4.5.1 Integrity Testing of Bulk Storage Containers

When a facility owner or operator shows that secondary containment around a bulk storage container is impracticable, he or she must conduct periodic integrity testing of the container (§112.7(d)). Integrity testing is any means to measure the strength (structural soundness) of the container shell, bottom, and/or floor to contain oil. Integrity testing should be done in accordance with good engineering practice, considering applicable industry standards. For a thorough discussion of integrity testing, see Chapter 7 of this document. Chapter 7 describes the scope and frequency of inspections and tests, considering industry standards and the characteristics of the container. When there is no secondary containment around a container, however, good engineering practice should indicate a more stringent integrity testing schedule than would be required for a container if secondary containment were in place. Although the 2002 revised SPCC rule does not incorporate specific inspection frequency, certain industry standards require more frequent and/or more intensive inspection of containers when they do not have secondary containment.[3]

The EPA inspector should verify that the Plan describes the integrity testing of bulk storage containers, in particular for those containers for which secondary containment is impracticable. The inspector should also review testing records to ensure that the inspection program is implemented as described.

4.5.2 Periodic Integrity and Leak Testing of the Valves and Piping

When the facility owner or operator determines that secondary containment for bulk storage containers is impracticable, he/she must also perform periodic integrity and leak testing of valves and piping associated with the containers for which secondary containment is impracticable (§112.7(d)). Leak testing determines the liquid tightness of valves and piping and whether they may discharge oil. Leak testing should be performed in accordance with appropriate industry

[3] The Steel Tank Institute's "Standard for the Inspection of Aboveground Storage Tanks," SP001, 3rd Edition, Steel Tank Institute, July 2005 (summarized in Chapter 7 of this document) requires more frequent inspections of tanks that do not have adequate secondary containment.

standards. Chapter 7 provides an overview of integrity and leak testing of valves and piping. As for integrity testing, good engineering practice may suggest a more stringent leak testing schedule than would be required if secondary containment were in place. The PE certifies that the extent of this testing is in accordance with good engineering practice, including consideration of applicable industry standards (§112.3(d)).

The EPA inspector should verify that the Plan describes the integrity and leak testing of valves and piping associated with containers for which secondary containment is impracticable. The inspector should also review testing records to ensure that the testing program is implemented as described.

4.5.3 Oil Spill Contingency Plan and Written Commitment of Resources

Unless he or she has submitted a Facility Response Plan under §112.20, an owner or operator who claims that secondary containment is impracticable must include with the SPCC Plan an oil spill contingency plan following the provisions of 40 CFR part 109 and a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil that may be harmful (§112.7(d)).

The requirements for the content of contingency plans are given in 40 CFR part 109, Criteria for State, Local, and Regional Oil Removal Contingency Plans. The elements of the contingency plan are outlined in §109.5, and include:

- Definition of the authorities, responsibilities, and duties of all persons, organizations, or agencies that are to be involved or could be involved in planning or directing oil removal operations.
- Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge.
- Provisions to ensure that full resource capability is known and can be committed during an oil discharge situation.
- Provisions for well-defined and specific actions to be taken after discovery and notification of an oil discharge.
- Specific and well-defined procedures to facilitate recovery of damages and enforcement measures as provided for by state and local statutes and ordinances.

Please refer to the model contingency plan found in Appendix F of this document for an example contingency plan prepared in compliance with the SPCC rule and 40 CFR part 109.

As described in 67 FR 47105, a ‘‘written commitment’’ of manpower, equipment, and materials means either a written contract or other written documentation showing that the owner/operator has made provision for items needed for response purposes. According to 40 CFR 109.5, the commitment includes:

- Identification and inventory of applicable equipment, materials, and supplies that are available locally and regionally;
- An estimate of the equipment, materials, and supplies that would be required to remove the maximum oil discharge to be anticipated;
- Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials, and supplies to be used in responding to such a discharge;
- Provisions for well-defined and specific actions to be taken after discovery and notification of an oil discharge, including specification of an oil discharge response operating team consisting of trained, prepared, and available operating personnel;
- Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from federal authorities operating under current national and regional contingency plans;
- A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response actions;
- Provisions for varying degrees of response effort depending on the severity of the oil discharge; and
- Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses. (67 FR 47105)

For a contingency plan to satisfy the requirements of §112.7(d), facilities must be able to implement the contingency plan. Activation of the contingency plan is contingent upon the discharge of oil being detected. As part of evaluating the adequacy of the contingency plan developed to satisfy requirements of §112.7(d), the EPA inspector should consider the time it takes facility personnel to detect and mitigate a discharge to navigable waters and adjoining shorelines. For example, at an unmanned facility, effective implementation of the contingency plan may involve enhanced discharge detection methods such as more frequent facility visits and inspections, or the use of spill detection equipment.

4.5.4 Role of the EPA Inspector in Reviewing Impracticability Determinations

Like other technical aspects of the SPCC Plan, determinations of impracticability must be reviewed by the PE certifying the Plan in accordance with §112.3(d) to ensure that they are consistent with good engineering practice. The inspector should verify that the Plan has been certified by the PE and that the additional measures specified in §112.7(d) are documented in the Plan, as explained below.

By certifying a Plan, a PE attests that the Plan has been prepared in accordance with good engineering practice, that it meets the requirements of 40 CFR part 112, and that it is adequate for the facility. Thus, if impracticability determinations and the corresponding alternative measures and contingency plan have been reviewed by the certifying PE and are properly documented, they should generally be considered acceptable by regional EPA inspectors. However, if an impracticability determination and/or the additional required measures do not meet the standards of common sense, appear to be at odds with recognized industry standards, do not meet the overall objective of oil spill response/prevention, or appear to be inadequate for the facility, appropriate follow-up action may be warranted. In this case, the EPA inspector should clearly document the concerns (including photographs and drawings of the facility configuration, flow direction, and proximity to navigable waters) to assist RA review and follow-up. This may include requesting additional information from the facility owner or operator to justify the impracticability determination. An owner/operator making a determination of impracticability should have considered all appropriate options for secondary containment, and the documentation presented in support of the impracticability determination should include a discussion of the reasons why the various reasonable options are impracticable.

The example below provides an example of an inadequate impracticability determination. The supporting discussion provided in the example does not provide a sufficient discussion of the reasons why the concrete dike is not practicable. It also fails to address, even in general terms, whether means of secondary containment other than a concrete dike may be practicable (e.g., remote impoundment, drainage systems, or active measures). Finally, the discussion does not provide information on the measures that are provided in lieu of secondary containment and how the facility intends to implement the contingency plan, commit manpower and equipment to respond, and perform the required testing on the bulk storage containers and associated piping and appurtenances. Refer to §112.7(c) and (d) for a list of available secondary containment options as well as the additional measures required in the SPCC Plan when a determination of impracticability is made.

Bad Example: Bulk Storage Containers

Bulk Storage Tanks – 40 CFR 112.8(c)(2)

XYZ Oil has determined that secondary containment is impracticable for the two bulk storage tanks located to the east of the maintenance building. There is not sufficient space to build a concrete dike because of the proximity to the property line. XYZ Oil is therefore implementing a contingency plan for this portion of the facility.

For comparison, the following example provides an adequate impracticability determination. The supporting discussion provided in the example clearly explains why various methods of secondary containment measures are not practicable, and documents the measures that the facility has implemented in lieu of secondary containment.

Good Example: Bulk Storage Containers

Bulk Storage Tanks – 40 CFR 112.8(c)(2)

XYZ Oil has determined that secondary containment is impracticable for the two bulk storage tanks located to the east of the maintenance building. There is not sufficient space to accommodate a dike or berm with the required containment capacity due to minimum setbacks and maximum dike height. A dike or berm with the required capacity would either encroach on the neighbor's property and/or exceed a 6-feet safe wall height (OSHA Flammable and combustible liquids regulation, 29 CFR 1910.106). The facility also lacks the space necessary for remote impoundment. Other measures listed under §112.7(c) such as the use of sorbents would not be a reliable and effective means of secondary containment since the volumes involved may exceed the sorbent capacity.

The tanks are currently in good condition and do not need to be replaced. However, tanks of double-wall design may be considered as potential replacement in the future.

Because secondary containment for these two bulk storage tanks is impracticable, XYZ Oil has provided in this SPCC Plan the additional elements required under 40 CFR 112.7(d), namely:

- Periodic integrity testing of bulk storage containers, and periodic integrity and leak testing of valves and piping (see Section 2.7 of the SPCC Plan).
- A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful (see Appendix F of the SPCC Plan).
- An Oil Spill Contingency Plan following the provisions of 40 CFR part 109 (see Appendix G of the SPCC Plan).

In addition to verifying that the SPCC Plan clearly describes the reason why secondary containment measures are not practicable and documents the implementation of the additional measures required in §112.7(d), the EPA inspector should verify that:

- The facility's contingency plan can be implemented as written;
- The equipment for response is available;
- The commitment of manpower, equipment, and materials is documented;
- The contingency plan describes the location of drainage systems, containment deployment locations, and oil collection areas (including recovered oil storage capability);
- There are procedures for early detection of oil discharges; and
- There is a defined set of response actions.

Figure 4-10 provides a checklist an EPA inspector can review to verify that all the criteria of §109.5 are included in a facility's oil spill contingency plan. The EPA inspector may also refer to the checklist included in Figure 4-11 at the end of this chapter when identifying and reviewing technical rule requirements that are eligible for the impracticability provision.

Figure 4-10. Checklist of required components of state, local, and regional oil removal contingency plans. Please refer to the complete text of 40 CFR §109.5.

109.5–Development and implementation criteria for state, local, and regional oil removal contingency plans*		**Yes**	**No**
Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.			
Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:			
(1)	The identification of critical water use areas to facilitate the reporting of and response to oil discharges.		
(2)	A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.		
(3)	Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).		
(4)	An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.		
Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:			
(5)	The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.		
(6)	An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.		
(7)	Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.		
Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:			
(8)	Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.		
(9)	Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.		
(10)	A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.		
(11)	Provisions for varying degrees of response effort depending on the severity of the oil discharge.		
(12)	Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.		
Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.			

* The contingency plan should be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

Figure 4-11. Checklist of SPCC requirements eligible for impracticability determinations.

Rule Element	Relevant Section(s)	Evaluation	Verification	Nonconformance
ALL FACILITIES				
General Containment	112.7(c)	Are appropriate containment and/or diversionary structures provided? Is the containment system capable of containing oil and constructed so that any discharge from the primary containment system will not escape before cleanup occurs?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?
Loading/unloading Racks	112.7(h)(1)	Does the loading/unloading rack area drainage flow into a catchment basin or treatment facility? If not, is a quick drainage system used? Is the secondary containment system sized to contain the maximum capacity of any single compartment of a tank car or tank truck loaded there?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials?
ALL FACILITIES, EXCEPT OIL PRODUCTION				
Bulk Storage Containers	112.8(c)(2) OR 112.12(c)(2)	Is the secondary containment system sized to contain the entire capacity of the largest single container and sufficient freeboard to contain precipitation? Are dikes sufficiently impervious to contain oil?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?
	112.8(c)(11) OR 112.12(c)(11)	Are mobile or portable oil containers located within a dike, catchment basin or other means of secondary containment large enough to contain the largest single container and sufficient freeboard to contain precipitation?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?

Rule Element	Relevant Section(s)	Evaluation	Verification	Nonconformance
ONSHORE OIL PRODUCTION FACILITIES				
Drainage	112.9(c)(2)	Is drainage from undiked areas safely confined in a catchment basin or holding pond?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?
Bulk Storage Containers	112.9(c)(2)	Are all tank battery, separation, and treatment facility installations provided with secondary containment that can contain the largest single container and sufficient freeboard to contain precipitation?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?
ONSHORE OIL DRILLING AND WORKOVER FACILITIES				
Drainage	112.10(c)	Are catchment basins or diversion structures provided to intercept and contain discharges of fuel, crude oil, or oily drilling fluids?	Visual.	Does the Plan explain why secondary containment is impracticable? Is a Contingency Plan (or FRP) provided? Does the Plan include a written commitment of manpower, equipment, and materials? Does the facility conduct periodic integrity testing of bulk storage containers and integrity and leak testing of associated valves and piping?

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OIL/WATER SEPARATORS

5.1 Introduction

The wastewater treatment exemption in §112.1(d)(6) excludes from SPCC requirements facilities or parts of facilities that are used exclusively for wastewater treatment, as long as they are not used to meet other requirements of 40 CFR part 112. This chapter clarifies the applicability of this exemption to oil/water separators (including equipment, vessels, and containers that are not specifically called "oil/water separators" but perform oil/water separation, such as water clarifiers at wastewater treatment plants).

§112.1(d)
Except as provided in paragraph (f) of this section, this part does not apply to: ... (6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

Note: The above text is an excerpt of the SPCC rule. Refer to the full text of 40 CFR part 112.

The intended use of an oil/water separator determines whether the separator is subject to the SPCC regulations and, if so, what provisions are applicable. As outlined in Table 5-1 below, oil/water separators may be used for several different purposes: to treat wastewater, to meet secondary containment requirements of 40 CFR part 112, or as part of the oil production process. Only oil/water separators used exclusively to treat wastewater and not used to satisfy any requirement of part 112 are exempt from all SPCC requirements. Oil/water separators used in oil production and to meet the secondary containment requirements of the rule are not exempt.

Table 5-1. SPCC rule applicability for various uses of oil/water separators.

Wastewater Treatment	Secondary Containment	Oil Production
Separators are exempt from all SPCC requirements in accordance with §112.1(d)(6) and do not count toward facility storage capacity.	Separators that are used as part of a secondary containment system and are not intended for oil storage or use do not themselves require secondary containment, and do not count toward facility storage capacity. However, they are subject to the design specifications (e.g., capacity) for the secondary containment requirements with which they are designed to comply.	Separators that are bulk storage containers, subject to the provisions of §§112.9(c) or 112.11(b) and (d), are not exempt and count toward the facility storage capacity.

The remainder of this chapter is organized as follows:

- **Section 5.2** summarizes the provisions of the SPCC rule that apply to the three uses of oil/water separators identified above.
- **Section 5.3** discusses the use of an oil/water separator for wastewater treatment and the exemption for this use.
- **Section 5.4** addresses the use of an oil/water separator as secondary containment and the applicable SPCC requirements.
- **Section 5.5** discusses the use of an oil/water separator in oil production and the applicable SPCC requirements.
- **Section 5.6** describes required documentation for oil/water separators and the role of the EPA inspector in reviewing facilities with oil/water separators.

5.2 Overview of Provisions Applicable to Oil/Water Separators

Section 112.1(d)(6) addresses oil/water separators used for wastewater treatment. Facilities or equipment used exclusively for wastewater treatment, and which do not satisfy any requirements of the SPCC rule, are exempt from the SPCC rule requirements. These oil/water separators do not count toward facility storage capacity. Whether a wastewater treatment facility or part thereof is used exclusively for wastewater treatment or used to satisfy an SPCC requirement will often be a facility-specific determination based upon the activities carried out at the facility and upon its configuration.

Drainage systems that satisfy the secondary containment requirements of the SPCC rule may use oil/water separators to recover oil and return it to the facility (see Chapter 4 of this document for a description of secondary containment requirements). Examples of oil/water separators that are used to meet SPCC requirements include oil/water separators used to satisfy the secondary containment requirements of §§112.7(c), 112.7(h)(1), 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and/or 112.12(c)(11). Additionally, the drainage provisions in §§112.8(b) and 112.9(b) set forth design specifications for secondary containment at a facility. Oil/water separators may be used as part of a facility drainage system to meet the secondary containment requirements of the rule. Oil/water separators used to satisfy these rule requirements are subject to applicable secondary containment requirements, but they do not count toward storage capacity.

As stated in §112.1(d)(6), production, recovery, and recycling of oil are not considered wastewater treatment and, thus, are not eligible for the wastewater treatment exemption. For purposes of §112.1(d)(6), this means recovery and recycling of crude oil at facilities associated with, and downstream of, production facilities, such as saltwater disposal and injection

§112.9(c)(2)
Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

Note: The above text is an excerpt of the SPCC rule. Refer to the full text of 40 CFR part 112.

facilities. Section 112.9(c)(2) includes requirements for oil/water separators (e.g., gun barrels, heater-treaters) used at onshore oil production facilities. This provision specifically identifies the secondary containment and drainage requirements for all tank battery, separation, and treating facility installations, including oil/water separators. Examples of oil/water separators associated with oil production, separation, and treatment include free water knock-outs, two- and three-phase separators, and gun barrels.

Sections 112.11(b) and (d) include the applicable provisions for oil/water separators located at offshore oil production facilities.

Figure 5-1 helps determine the use of an oil/water separator at SPCC-regulated facilities and identifies the corresponding rule requirements or exemptions based upon each use.

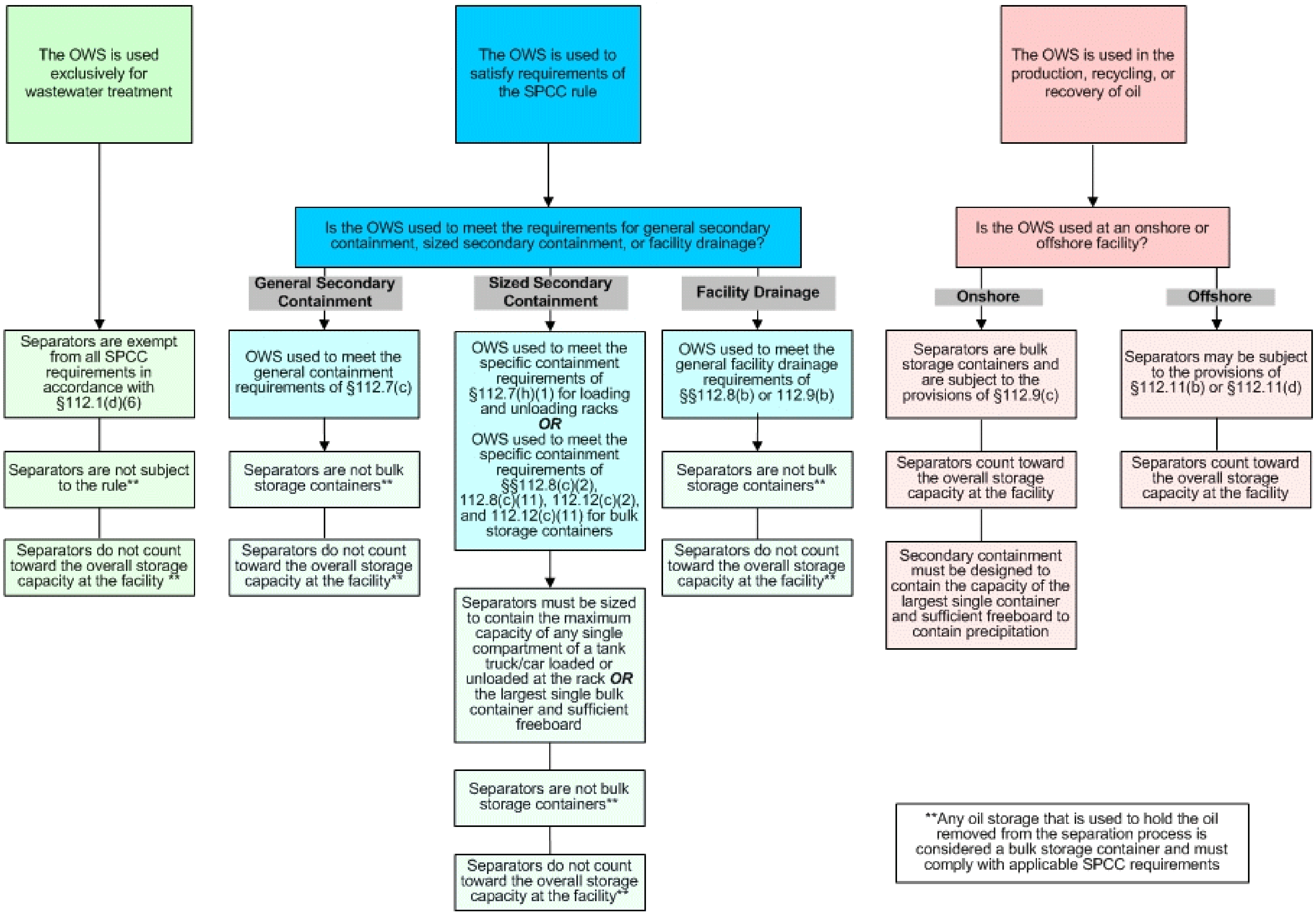
§112.11(b)
Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

Note: The above text is an excerpt of the SPCC rule. Refer to the full text of 40 CFR part 112.

§112.11(d)
At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:
(1) Extending the flare line to a diked area if the separator is near shore;
(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or
(3) Installing parallel redundant dump valves.

Note: The above text is an excerpt of the SPCC rule. Refer to the full text of 40 CFR part 112.

Figure 5-1. Applicable requirements for an oil/water separator.

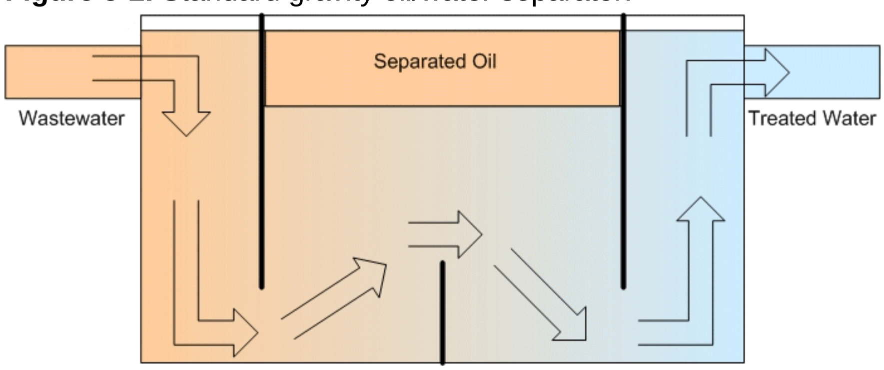


5.3 Oil/Water Separators Used in Wastewater Treatment

5.3.1 Description of Oil/Water Separator Use in Wastewater Treatment

Oil/water separators used to pre-treat wastewater are usually of two kinds: standard gravity separators or enhanced gravity separators.[1] Standard gravity separators, as illustrated in Figure 5-2 (separator designs may vary), are liquid containment structures that provide sufficient hydraulic retention time to allow oil droplets to rise to the surface. The oil forms a separate layer that can then be removed by skimmers, pumps, or other methods. The wastewater outlet is located below the oil level so that water leaving the separator is free of the oil that accumulates at the top of the unit. The inlet is often fitted with diffusion baffles to reduce turbulent flow that might prevent effective separation of the oil and might re-suspend settled pollutants.

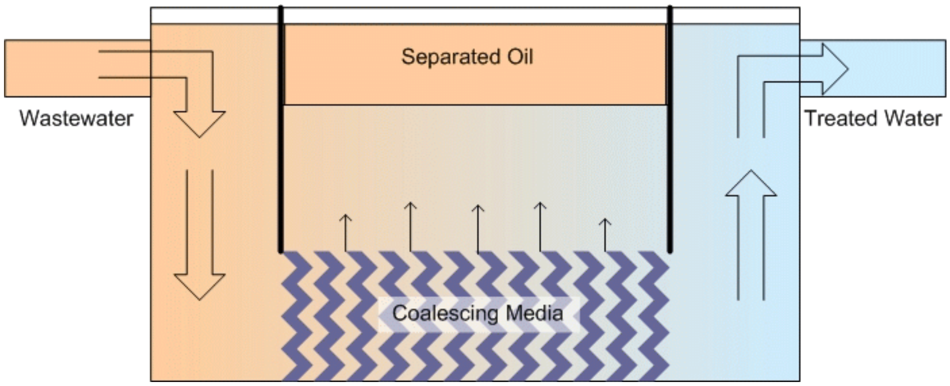
Figure 5-2. Standard gravity oil/water separator.



Enhanced gravity separators allow the separation of smaller oil droplets within confined spaces. These separators use a variety of coalescing media and small diameter cartridges that enhance laminar flow and separation of smaller oil droplets that accumulate on the separator surface for removal. Figure 5-3 shows coalescing plates in the middle compartment (separator designs may vary).

[1] Other types of separators include vortex separators, which combine gravity with centrifugal forces.

Figure 5-3. Enhanced gravity oil/water separator.



Oil/water separators are flow-through equipment in which wastewater enters the separator and treated water exits the separator on a continual basis. To be effective, the oil/water separator is sized appropriately in order for the unit to separate and contain the intended oil capacity, in addition to the flow-through wastewater quantity. Also, the design flow rate of the oil/water separator is carefully considered when specifying a wastewater treatment system, as a flow rate above the maximum rate of the separator will cause the discharge of accumulated oil and/or untreated wastewater. The specifications from oil/water separator manufacturers typically outline these and other design factors to consider, along with operation and maintenance requirements, to ensure that the oil/water separator is correctly constructed and operated for its intended use.

5.3.2 Applicability of the SPCC Rule to Oil/Water Separators Used for Wastewater Treatment

Section 112.1(d)(6) exempts "any facility or part thereof" that is used *exclusively* for wastewater treatment *and* is not used to meet any other requirement of the rule (excluding oil production, recovery, and recycling facilities). Certain components of wastewater treatment facilities, such as treatment systems at publicly owned treatment works (POTWs) and industrial wastewater treatment facilities treating oily wastewater, likely meet the two criteria for this exemption.

POTWs and other wastewater treatment facilities may have bulk storage containers and oil-filled equipment, as well as exempt oil/water separators. The capacity of the bulk storage containers and oil-filled equipment is counted to determine whether the facility is subject to the requirements of the SPCC rule. Only the oil/water separator capacity does not count toward the overall storage capacity of the facility. Thus, the presence of an oil/water separator at an otherwise regulated facility does not exempt the entire facility from the SPCC rule requirements. At wastewater treatment facilities, storage capacity to be counted includes bulk storage containers, hydraulic equipment associated with the treatment process, containers used to store oil that feed an emergency generator associated with wastewater treatment, and slop tanks or other containers used to store oil resulting from treatment. Any separate container used to store oil recovered by the separation process or any other equipment or containers at a regulated facility that do not qualify for the wastewater treatment exemption are required to meet all applicable SPCC requirements (67 FR 47069).

Oil/water separators used exclusively for wastewater treatment are flow-through separators and are not engaged in a static process in an isolated container. For example, a bulk storage container containing an oil and water mixture, and from which water is drawn from the bottom, does not constitute wastewater treatment.

Examples of oil/water separators that may be considered wastewater treatment and may be eligible for the exemption of §112.1(d)(6) include:

- Oil/water separators at a wastewater treatment facility;
- Oil/water separators at an active groundwater remediation site;
- Grease traps that intercept and congeal oil and grease from liquid waste; and
- Oil/water separators in landfill leachate collection systems.

Oil/water separators exempted from the SPCC rule may, however, be subject to other federal, state, and local regulations. In addition, a separate container storing oil removed from an exempt separator is considered a bulk storage container and is subject to the SPCC rule requirements.

Many of these exempted wastewater treatment oil/water separators are within wastewater treatment facilities or parts thereof subject to the National Pollutant Discharge Elimination System (NPDES) requirements under section 402 of the Clean Water Act (CWA). NPDES (or an approved state permit program) ensures review and approval of the facility's wastewater treatment plans and specifications, operation/maintenance manuals and procedures, and requires a Storm Water Pollution Prevention Plan, which may include a Best Management Practice (BMP) Plan.

BMPs are additional conditions that may supplement effluent limitations in NPDES permits. In addition, other affected facilities need a BMP Plan for storm water runoff control under an NPDES permit. Under §402(a)(1) of CWA, BMPs may be imposed when the Administrator determines that such conditions are necessary to carry out the provisions of the Act.[2]

Additionally, some facilities may be subject to pretreatment standards promulgated under §307(b) of CWA. Pretreatment standards apply to "indirect discharges" that go first to a POTW via a collection system before being discharged to navigable waters, and they concern pollutants that pass through POTWs untreated or interfere with the operation of POTWs. The General Pretreatment Regulations for Existing or New Sources of Pollution, found at 40 CFR part 403, prohibits an indirect discharger from introducing into a POTW a pollutant that passes through or interferes with treatment processes at the POTW, and also sets the framework for the

[2] See discussion of authority for NPDES and BMP provisions in the preamble to the 2002 revised SPCC rule, 67 FR 47068.

implementation of categorical pretreatment standards. Specifically, 40 CFR 403.5(b)(6) prohibits the introduction into a POTW of "petroleum, oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through."

5.3.3 Wastewater Treatment Exemption Clarification for Dry Gas Production Facilities

As EPA stated in a *Federal Register* notice (69 FR 29728), produced water tanks at dry gas facilities are eligible for the wastewater treatment exemption. Gas facilities that do not produce condensate or crude oil (i.e., dry gas facilities) do not meet the description of "oil production, oil recovery, or oil recycling facilities." Therefore, produced water tanks used exclusively for wastewater treatment at such facilities are eligible for the exemption. Tanks that are eligible for the exemption do not count toward storage capacity.

At 69 FR 29730, EPA stated that "...[in] verifying that a particular gas facility is not an 'oil production, oil recovery, or oil recycling facility,' the Agency plans to consider, as appropriate, evidence at the facility pertaining to the presence or absence of condensate or crude oil that can be drawn off the tanks, containers or other production equipment at the facility, as well as pertinent facility test data and reports (e.g., flow tests, daily gauge reports, royalty reports or other production reports required by state or federal regulatory bodies)."

5.4 Oil/Water Separators Used to Meet SPCC Secondary Containment Requirements

5.4.1 Description of Oil/Water Separators Used to Meet SPCC Secondary Containment Requirements

Oil/water separators can be used to meet the SPCC requirements for secondary containment in §§112.7(c), 112.7(h)(1), 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and/or 112.12(c)(11). Additionally, §§112.8(b), 112.9(b), and 112.12(b) set forth design specifications for drainage associated with secondary containment provisions at the facility. Properly designed, maintained, and operated oil/water separators may be used as part of a facility drainage system to meet the secondary containment requirements of the rule.

Standard gravity and enhanced gravity separators (Figures 5-2 and 5-3), or other types of oil/water separators (separator designs may vary), may be used to meet secondary containment requirements. In this application, the separators are expected to have oil and water present in the system when there is an oil discharge or oil-contaminated precipitation runoff within the drainage area. Generally, these separators should be monitored on a routine schedule and collected oil should be removed as appropriate in accordance with procedures in the SPCC Plan.

When designing oil/water separators to be used as secondary containment (see Chapter 4 for a discussion of secondary containment requirements), good engineering practice would normally indicate that a Professional Engineer (PE) would consider:

- The drainage area that flows to the separator;
- The corresponding anticipated flow rate of the drainage system to the separator; and
- The appropriate capacity of the oil/water separator for oil and for wastewater.

Many oil/water separators used for secondary containment are installed in areas where they may receive considerable flow from precipitation. If the flow rate exceeds the maximum design rate of the separator, the separator may discharge accumulated oil and/or untreated wastewater; therefore, it may be an inappropriate choice for secondary containment and may result in a discharge to navigable waters and adjoining shorelines. The specifications from the oil/water separator manufacturer outline these and other design factors as important items to consider when specifying the use of a given oil/water separator for a given application. Additionally, the manufacturer specifies the maintenance requirements for these separators that would ensure proper operation of these devices.

When oil/water separators are used to meet SPCC requirements they must be properly operated and maintained to ensure that the unit will perform correctly and as intended under the potential discharge scenarios it is aimed to address (e.g., §§112.7(c), 112.8(c)(2), and 112.12(c)(2)). The required oil/water separator capacity should always be available (i.e., oil should not continually accumulate in the separator over a period of time such that the required storage capacity would not be available if an oil release were to occur within the drainage area). The use of oil/water separators as a method of containment may be risky as they have limited drainage controls to prevent a discharge of oil and rely heavily on proper maintenance.

5.4.2 Applicability of the SPCC Rule to Oil/Water Separators Used to Meet Specific SPCC Secondary Containment Requirements

Section 112.7(c) requires "appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b)." An oil/water separator may be used to satisfy this requirement for onshore or offshore facilities. This separator must be constructed to contain oil and prevent an escape of oil from the system prior to cleanup in order to comply with the secondary containment provision for which it is intended (§112.7(c)). A description explaining how an oil/water separator complies with secondary containment provisions, and how it is operated and maintained, should be included in the SPCC Plan. BMPs or O&M manuals which detail operation and maintenance procedures for oil/water separators used specifically for secondary containment may be referenced in the SPCC Plan and maintained separately.

Section 112.7(h)(1) requires "a quick drainage system" for areas where a tank car or tank truck loading or unloading rack is present. An oil/water separator may be used as part of a quick drainage system to meet this requirement. This containment system must hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility (§112.7(h)(1)).

Sections 112.8(b), 112.9(b), and 112.12(b) set forth design specifications for drainage systems associated with secondary containment at onshore facilities. Environmentally equivalent measures can be used to satisfy these requirements (see Chapter 3 for a discussion of the environmental equivalence provision). In order to comply with secondary containment requirements, facilities might use ponds, lagoons, or catchment basins as part of the design criteria for facility drainage systems. However, an oil/water separator might serve as an environmentally equivalent measure to the ponds, lagoons, or catchment basins required by §§112.8(b)(3) and 112.12(b)(3). In this instance, EPA recommends that the oil/water separator be designed to handle the flow rate and volume of oil and water expected to be generated by facility operations. When certifying a facility's SPCC Plan, the PE must verify that the oil/water separator is adequately designed, maintained, and operated to provide environmentally equivalent protection (in accordance with §112.7(a)(2)) under the potential discharge scenarios it is aimed to address, in order to comply with the corresponding secondary containment provision.

Sections 112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and 112.12(c)(11) require that all bulk storage containers be provided with secondary containment for "the entire capacity of the largest single container and sufficient freeboard to contain precipitation." An oil/water separator may be used for this purpose, but it *must be appropriately sized* to meet the requirements of the rule provision for which it is intended to comply. The oil/water separator must be capable of handling both the oil and precipitation that come into the separator from the general drainage area, and from any accidental discharge from the largest bulk storage container located within the drainage area for which the separator provides secondary containment (§112.8(c)(2), 112.8(c)(11), 112.12(c)(2), and 112.12(c)(11)). Good engineering practice would suggest that the use of oil/water separators for the specific secondary containment provisions be on a very limited basis and typically with smaller capacity container storage areas (e.g., drum storage area). For more information on specific secondary containment requirements for bulk storage containers, see Chapter 4 of this document.

The capacity of an oil/water separator used to meet secondary containment requirements does not count toward a facility's overall storage capacity. Any volume of oil that would flow into the oil/water separator would come from another source within the drainage area that is already generally counted in the facility storage capacity determination. Containers used to store recovered oil after oil/water separation, however, represent additional oil storage and count toward a facility's total storage capacity. These include slop tanks or other containers used to store waste oil.

The SPCC rule does not require redundant secondary containment around oil/water separators used for secondary containment (i.e., tertiary containment is not required).

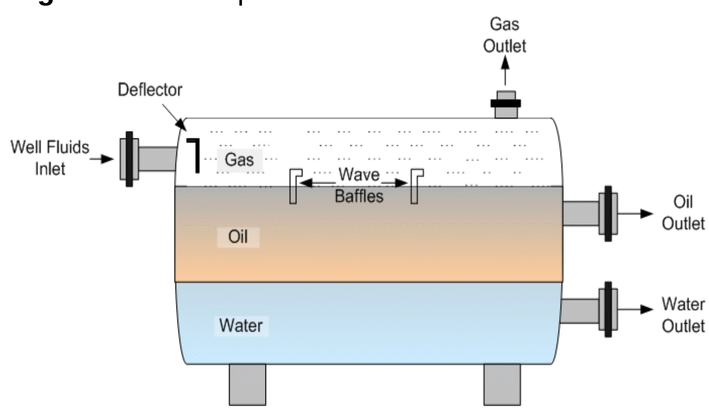
5.5 Oil/Water Separators Used in Oil Production

5.5.1 Description of Oil/Water Separators Used in Oil Production

Oil production oil/water separators are used at both onshore and offshore facilities. Separators and other separation equipment, such as heater-treaters and gun barrels, are used during oil production to separate the well stream into individual well fluids after they are extracted from the production well. Different processes and equipment may be used to separate the mixture into oil/emulsion, water, and gas fractions. All such equipment is considered a bulk storage container needing specific secondary containment. For purposes of this guidance, this chapter focuses on those pieces of equipment that separate water from oil and the equipment through which these fluids flow.

There is quite a variety of production equipment used to separate and treat produced fluids. Some are operated under low pressure conditions, while others are operated at high pressure. A process called "free-water knockout," illustrated in Figure 5-4, is generally used to separate large volumes of water from oil and gas generated from the well. Gun barrels, also called wash tanks, are generally found in older or marginal fields and are used to provide quiet retention time for the water to settle out of the produced well fluids (see Figure 5-5). A two-phase separator separates the well fluids into a liquid (oil, emulsion,[3] or water) and a gas. The liquid exits the bottom of the separator and the gas exits the top, as shown in Figure 5-6. Three-phase separators separate well fluids into oil/emulsion, gas, and water. Gas exits from the top, oil/emulsion from the middle, and water from the bottom of this type of vertical three-phase separator (Figure 5-7). Three-phase separators are generally used when there is free water in the well fluids. If there is little or no free water, a two-phase separator might be used instead. Another type of equipment used to separate produced fluids, especially fluid emulsions, is termed a "heater-treater." Heater-treaters use heat, electricity, and/or chemicals to reduce the emulsion viscosity and to separate out free oil, water, and gas in oil production. The designs of oil/water separators may differ from the examples provided.

Figure 5-4. Low pressure free-water knockout.



[3] An emulsion is a colloidal suspension of a liquid within another liquid. In this case, small droplets of oil are dispersed through water.

Figure 5-5. Gun barrel oil/water separator.

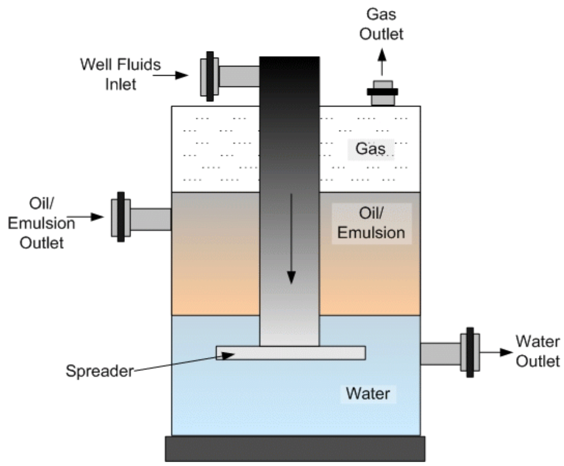


Figure 5-6. Two-phase oil/water separator.

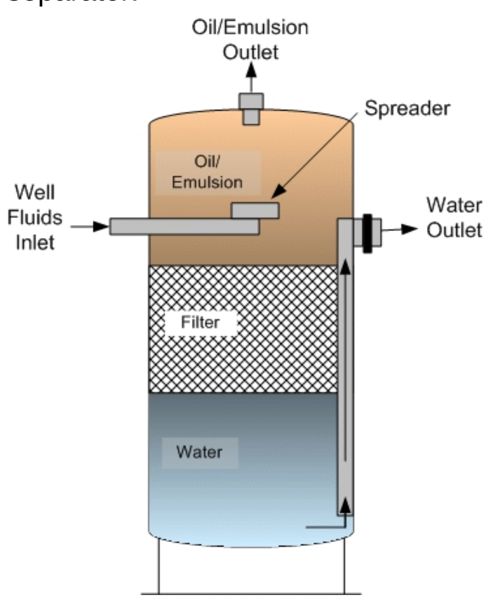
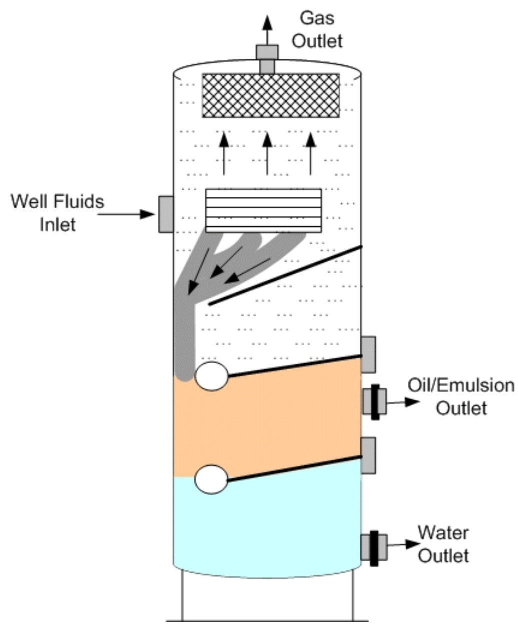


Figure 5-7. Three-phase oil/water separator.



In separators used for oil production, the momentum of the fluid flow is absorbed at the inlet, thereby reducing the fluid viscosity and allowing oil, gas, and water to separate out of solution. Gas then rises and flows out at the top of the separator, while oil and water fall to the lower portion of the vessel and coalesce in separate areas. With the appropriate settling time, the more dense free water settles beneath the less dense oil. Liquid levels are maintained by float-actuated control valves or dump valves. As the different pre-set liquid levels are reached, dump valves discharge water and oil from the separator to appropriate storage areas:

- Water is discharged from the bottom of the separator to a water tank;
- Oil is discharged out at a higher level to a oil storage tank; and
- Gas flows continuously out at the top of the separator to sales, a meter run, a flare, or a recovery system.

5.5.2 Applicability of the SPCC Rule to Oil/Water Separators Used in Oil Production

The SPCC rule's wastewater treatment exemption specifically states that the production of oil is not wastewater treatment for the purposes of §112.1(d)(6). The focus of the separation process in oil production is on removing water from oil, as opposed to removing oil from water.

Additionally, as stated in the preamble to the 2002 revised SPCC rule, production facilities generally lack NPDES or state-equivalent permits or prevention requirements, and thus lack the protections that such permits provide. Furthermore, Underground Injection Control (UIC) permits do not have prevention requirements for production facilities. Production facilities are normally unmanned and therefore lack constant human oversight and inspection. Produced water generated in the production process normally contains saline water as a contaminant in the oil, which in addition to the toxicity of the oil might aggravate environmental conditions in the case of a discharge (67 FR 47068). In some areas of the United States, produced water is fresh and may be discharged under a NPDES permit for beneficial use (e.g., irrigation, water for livestock).

The goal of an oil production, oil recovery, or oil recycling facility is to maximize the production or recovery of oil, while eliminating impurities in the oil, including water, whereas the goal of a wastewater treatment facility is to purify water. Neither an oil production facility nor an oil recovery or recycling facility treats water; instead, it treats oil. For purposes of the wastewater treatment exemption, produced water is not considered wastewater, and treatment of produced water is not considered wastewater treatment. Therefore, a facility that stores, treats, or otherwise uses produced water remains subject to the rule. At oil drilling, oil production, oil recycling, or oil recovery facilities, treatment units subject to the rule include open oil pits or ponds associated with oil production operations, oil/water separators (e.g., gun barrels), and heater-treater units. Open oil pits or ponds function as another form of bulk storage container and are not used for wastewater treatment (67 FR 47068,9). Although the ratio of water to oil can be relatively high, the quantity of oil involved can be still be substantial and pose a threat of a discharge to navigable waters and adjoining shorelines.

Oil/water separators used in the production of oil (e.g., heater-treaters and gun barrels) and other separation and treatment facility installations, are subject to the specific secondary containment requirements for oil production facility bulk storage containers in §112.9(c)(2). Therefore, oil/water separators used in oil production are considered bulk storage containers and are subject to the applicable SPCC requirements under §112.9(c):

- Oil/water separators used in onshore oil production are subject to the provisions of §112.9(c). For example, oil/water separators used in onshore oil production must have secondary containment designed to contain the capacity of the largest single container and sufficient freeboard to contain precipitation (§112.9(c)(2)). If specific secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).

- Oil/water separators used in offshore oil production are subject to the provisions of §112.11(b) and (d) to prevent a discharge of oil. However, if other provisions of the rule (except secondary containment) can be met through alternative methods that provide environmental equivalence for this equipment, then the Plan must include a description in accordance with §112.7(a)(2).

- Vessels and equipment, such as glycol dehydrators and inline heaters, that treat only gas and that do not separate, treat, or contain oil, are not subject to the SPCC rule.

Oil/water separators used in oil production count toward the total storage capacity of the facility and must be considered when determining if a facility is regulated by the SPCC rule in accordance with §112.1(b) and (d)(2) and the definition of storage capacity in §112.2. In determining applicability of any container for calculating the total facility storage capacity, the preamble to the 2002 rule states:

> The keys to the definition are the availability of the container for drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil, and whether it is available for one of those uses or whether it is permanently closed. Containers available for one of the above described uses count towards storage capacity, those not used for these activities do not. Types of containers counted as storage capacity would include some flow-through separators, tanks used for “emergency” storage, transformers, and other oil-filled equipment. (67 FR 47081)

5.6 Documentation Requirements and the Role of the EPA Inspector

5.6.1 Documentation by Owner/Operator

Oil/water separators used exclusively for wastewater treatment are exempt from all SPCC requirements, and no documentation is required for this equipment in the SPCC Plan.

For oil/water separators used to meet SPCC secondary containment requirements, the SPCC Plan should discuss the separator design capacity, configuration, maintenance, operation, and other elements of the drainage systems that ensure proper functioning and containment of the oil as required by §112.7(a)(3)(iii). Examples of elements that this discussion should include are:

- The presence and configuration of valves to prevent the accidental release of oil;
- Routine visual inspection of the oil/water separator, its contents, and discharges of effluent;
- Preventive maintenance of facility equipment affecting discharge, including the removal of settled pollutants and collected oil;
- A drainage area that flows to the oil/water separator and corresponding anticipated flow rate of the drainage system to the separator;
- Appropriate capacity of the oil/water separator for oil and for wastewater;
- Provisions for adequate separate storage capacity (based on the containment sizing required by the rule) to contain oil recovered in the oil/water separator; and
- Documentation associated with the maintenance and inspection of oil/water separators.

A separate bulk storage container used to store oil following separation in any oil/water separator (i.e., wastewater treatment, secondary containment, or oil production) is subject to all applicable requirements of 40 CFR part 112, including §§112.8(c) or 112.9(c), as appropriate.

For oil/water separators used in oil production, the oil/water separators are considered bulk storage containers to be included in the SPCC Plan. The location of these containers must be indicated on the facility diagram and discussed in the general requirements in accordance with §112.7(a)(3). For more information on facility diagrams, refer to Chapter 6 of this document. The facility owner/operator may determine that the sized secondary containment required for these oil/water separators is impracticable, pursuant to §112.7(d). If impracticability is determined for sized secondary containment, the SPCC Plan must clearly explain why secondary containment is not practicable and provide an oil spill contingency plan following the provisions of 40 CFR part 109. In addition, such facilities must conduct integrity and leak testing of bulk containers and associated valves and piping, and provide a written commitment of manpower, equipment, and materials to respond to oil discharges (§112.7(d)). For more information on impracticability, refer to Chapter 4 of this document.

5.6.2 Role of the EPA Inspector

As with other aspects of the SPCC Plan, the certifying PE will review the use of and applicable requirements for oil/water separators at a facility and ensure that they are consistent with good engineering practice.

The EPA inspector will verify that any oil/water separators at a facility that are not addressed in the SPCC Plan are in fact used exclusively for wastewater treatment and not to meet any requirement of part 112. This review considers the intended and actual use of the separator. The EPA inspector should consider the intended use of the separator at the facility (e.g., wastewater treatment, secondary containment, oil production, recovery, or recycling), any flow diagrams illustrating the use of the separator, and the design specifications of the unit in evaluating the proper application of the wastewater exemption. The EPA inspector may also consider the flow-through capacity of the separator, the emulsion of oil present within the separator, and the design specifications of the unit in evaluating the use of the oil/water separator.

For oil/water separators used to meet SPCC secondary containment requirements, the EPA inspector will verify that the Plan includes, for each oil/water separator used as secondary containment, a discussion of the separator design capacity, configuration, maintenance, and operation, as well as other elements of the drainage systems that ensure proper functioning and containment of the oil in accordance with §112.7(a)(3)(iii). Inspectors should note the risk associated with this form of containment and should evaluate the design, maintenance, operation, and efficacy of oil/water separator systems used for containment very carefully. Generally, these separators should be monitored on a routine schedule, and collected oil should be removed as appropriate and in accordance with the drainage procedures in the Plan.

Oil/water separators used in the production of oil (e.g., heater-treaters and gun barrels) and other separation and treatment facility installations, are subject to the specific secondary containment requirements for oil production facility bulk storage containers in §112.9(c)(2). The SPCC Plan must address this equipment and include the storage capacity of the equipment in the storage capacity calculations (§112.1(b) and (d)(2) and the definition of storage capacity in §112.2.) If sized secondary containment is determined to be impracticable for the equipment, the SPCC Plan must document the reason for impracticability and comply with the additional regulatory requirements in §112.7(d).

By certifying the SPCC Plan, a PE attests that the Plan has been prepared in accordance with good engineering practice and with the requirements of 40 CFR part 112, and that the Plan is adequate for the facility. Thus, if the wastewater treatment exemption is certified by the PE or if other oil/water separator uses are properly documented, they most likely will be considered acceptable by EPA inspectors. However, if the documented uses of the oil/water separators do not meet the standards of common sense, appear to be incorrect, deviate from the use described in the Plan, are not maintained or operated in accordance with the Plan, or simply do not operate correctly, further follow-up action may be warranted. This may include a request for more information or a Plan amendment in accordance with §112.4(d).

FACILITY DIAGRAMS

6.1 Introduction

Section 112.7(a)(3) of the SPCC rule requires that facility owners and operators include in the SPCC Plan a diagram of the facility that identifies the location and contents of oil containers, connecting piping, and transfer stations. The diagram helps to ensure safe and efficient response actions, effective spill prevention and emergency planning, ease of Plan review by an EPA inspector, and proper implementation of the Plan by facility personnel. This chapter explains the requirement for a facility diagram, provides guidelines on the necessary level of detail, and includes several facility diagrams as examples.

6.1.1 Purpose

The facility diagram is an important component of an SPCC Plan because the diagram is used for prevention, planning, inspection, management, and response considerations. EPA and facility inspectors, responders, and facility personnel need to be aware of the location of all containers, piping, and transfer areas subject to the SPCC rule. The facility diagram may also assist response efforts by helping responders determine the flow pathway of discharged oil and take more effective measures to control the flow of oil. This may avert damage to sensitive environmental areas; may protect drinking water sources; and may help prevent discharges to other conduits, to a treatment facility, or to navigable waters or adjoining shorelines. The diagram may also serve to address the rule requirements by describing, pictorially, the capacity and type of oil in each container, the associated discharge/drainage controls, and the flow path of a discharge (§112.7(a)(3)(i) and (iii) and 112.7(b), respectively). Additionally, the diagram may be attached to a facility inspection checklist to identify areas, containers, or equipment subject to inspection. Diagrams may also help federal, state, or facility personnel avoid certain hazards and identify the location of facility response equipment. Finally, by informing responders of the location and content of containers, a facility diagram helps to ensure their safety in conducting response actions and to protect property.

§112.7(a)(3)
Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes. ...

Note: The above text is an excerpt of the SPCC rule. Refer to 40 CFR part 112 for the full text of the rule.

6.1.2 Requirements for a Facility Diagram

A description of the physical layout of a facility, including a facility diagram, is one of the general requirements for an SPCC Plan. The 2002 revisions to the SPCC rule added a new specific requirement in §112.7(a)(3) for a facility diagram to be included in the Plan. Section

112.7(a)(3) requires that the facility diagram include the location and contents of each container, completely buried tanks (even if exempted from the SPCC requirements), transfer areas (i.e., stations), and connecting pipes. In addition to the requirement for a facility description and diagram, §112.7(a)(3) lists additional items to be addressed in an SPCC Plan, including the type of oil in each container and its capacity; discharge prevention measures; discharge or drainage controls; countermeasures for discharge discovery, response, and cleanup; methods of disposal of recovered materials; and specific contact information. Please see §112.7(a)(3) for these requirements in their entirety.

6.2 Preparing a Facility Diagram

Facility diagrams provided as part of an SPCC Plan often illustrate the following information:

Required by §112.7(a)(3):[1]

- Aboveground and underground storage tanks (including content and capacity);
- Mobile portable containers (including content and capacity);
- Hydraulic operating systems or manufacturing equipment;
- Oil-filled electrical transformers, circuit breakers, or other equipment (including content and capacity);
- Any other oil-filled equipment (including content and capacity);
- Oil pits or ponds (at production facilities);
- Oil/water separators (e.g., at tank batteries, separation, and treating facility installations associated with production facilities);
- Fill ports and connecting piping (scale of drawing permitting);
- Oil transfer areas; and
- Loading racks/unloading areas.

Recommended:

- Secondary containment structures, including oil/water separators used for containment;
- Storm drain inlets and surface waters that could be affected by a discharge;
- Direction of flow in the event of a discharge (which can serve to address the SPCC requirement under §112.7(b));
- Legend that indicates scale and identifies symbols used in the diagram;
- Location of response kits and firefighting equipment;
- Location of valves or drainage system control that could be used in the event of a discharge to contain oil on the site;
- Compass direction; and

[1] Containers that have a capacity of less than 55 gallons, are permanently closed, or are otherwise exempt from the rule (with the exception of exempted underground storage tanks) are not required to be listed on the facility diagram.

- Topographical information and area maps.

In addition, for purposes of emergency response, EPA recommends, but does not require, that an owner/operator mark on a facility diagram containers that store Clean Water Act (CWA) hazardous substances (listed in 40 CFR part 116, Designation of Hazardous Substances) and label the contents of these containers (67 FR 47097).

While recognizing that SPCC Plans and their associated diagrams are facility-specific and prepared with a certain amount of PE discretion, the following information is meant to facilitate a common understanding of what EPA inspectors may expect to see in a facility diagram. The remainder of this section provides guidelines for the recommended level of detail, how specific containers and systems may be addressed, and the use of alternate facility diagrams for meeting the requirements of §112.7(a)(3).

6.2.1 Level of Detail

The facility diagram should provide sufficient detail for the facility personnel to undertake prevention activities, for EPA to perform an effective inspection, and for responders to take effective measures. As with other aspects of the SPCC Plan, the facility diagram is to be prepared in accordance with good engineering practice and reviewed by the PE as part of Plan certification. Thus, the level of detail provided and the approach taken for preparing an adequate facility diagram is primarily at the discretion of the certifying PE.

6.2.2. Facility Description

Section 112.7(a)(3) requires that the Plan include a description of the physical layout of the facility. In addition to marking the location and contents of each oil storage container at the facility, this description may include information on the facility location, type, size, and proximity to navigable waters, as well as other relevant information. This general facility description is often supplemented with a more specific description of containers subject to the SPCC rule to complement what is required on the facility diagram (e.g., storage capacity and content).

6.2.3 Oil Containers

The facility diagram must include all containers (including oil-filled equipment) that store 55 gallons or more of oil and must include information indicating the contents of these containers (§112.7(a)(3)). The 2002 revisions to the SPCC rule established a minimum container size of 55 gallons. Pursuant to §112.1(d)(5), the rule does not apply to containers of less than 55 gallons, and therefore they do not need to be included on the facility diagram.

In situations where diagrams become complicated due to the presence of multiple oil storage containers or complex piping/transfer areas at the facility, it may be difficult to indicate the contents and capacity of the containers on the diagram itself. In order to simplify the diagram, the

PE may choose to include that information on a separate log or sheet maintained in the Plan, similar to the description outlined below for mobile/portable containers.

6.2.4 Mobile or Portable Containers

The owner/operator must state the contents and location of each container on the diagram of the facility (§112.7(a)(3)). For portable containers (e.g., drums and totes), the facility owner/operator may note the general contents of each container and provide more detailed content information on a separate sheet or log, as well as other information, such as container capacity, that the PE determines to be appropriate to adequately describe the facility. If the contents of a container change frequently, the contents may be recorded on a separate sheet or log, *or* on the diagram (67 FR 47097). In this case, the diagram should note that contents vary. Additionally, the PE may choose to identify an area on the facility diagram (e.g., a drum storage area) and include a separate log that can be updated by facility personnel. The PE should develop a reasonable estimate of the number of containers in the area and the capacity of the containers, and consider routine movement of the containers for the Plan. This estimate can be used to determine applicability of the rule thresholds and provide a general description of the mobile/portable containers in the Plan. The PE should also include a procedure for maintaining the log, in order to avoid PE certification of technical amendments of the Plan as the number of mobile/portable containers changes at the facility.

Mobile containers should be marked on the facility diagram in their out-of-service or designated storage area or where they are most frequently located, such as a warehouse drum storage area. The facility owner/operator and certifying PE determine how best to represent mobile/portable containers on the facility diagram, such as by developing a log or indicating primary storage areas. If mobile containers are moved throughout the facility and do not immediately return to a specified location easily identified on the facility diagram, the exact location could be addressed on a separate sheet or log. This log would complement the facility diagram and the SPCC Plan by providing further information on the specific location and contents of mobile and portable containers. In addition, the diagram must identify the final location of mobile or portable containers (as required in §112.7(a)(3)) that return to a specific designated area to comply with the specific secondary containment requirements in §112.8(c)(11). (See Chapter 4 of this document for a discussion of secondary containment requirements.)

6.2.5 Completely Buried Storage Tanks

A facility diagram must include the location and contents of *all* containers required to be addressed in the SPCC Plan (67 FR 47097 and §112.7(a)(3)). This includes exempt underground storage tanks (USTs) as well as USTs that are subject to SPCC requirements at the facility. The rationale for this requirement is to help response personnel to easily identify dangers from either fire or explosion, or from physical impediments during response activities. For example, exempted tanks may include completely buried USTs and piping systems at a gasoline service station that are subject to all technical requirements of either 40 CFR part 280 or an approved state UST program under 40 CFR part 281.

As discussed in Chapter 2 of this document, a facility may have USTs that are subject to SPCC requirements because they are deferred from compliance with some or all of the technical requirements of 40 CFR part 280 (e.g., UST systems with field constructed tanks, any UST system that stores fuel solely for use by an emergency power generator, airport hydrant fuel distribution systems). Any USTs at a facility that are subject to SPCC requirements must also be marked on the facility diagram (§112.7(a)(3)). (See the preamble to the 1991 proposed rule, 56 FR 54612, October 22, 1991.)

6.2.6 Piping and Manufacturing Equipment

The facility diagram must also include all transfer stations (i.e., any location where oil is transferred) and connecting pipes (§112.7(a)(3)). Associated piping and manufacturing equipment present at an SPCC-regulated facility may be difficult to represent on a facility diagram, due to their relative location, complexity, or design. Recognizing this, EPA allows flexibility in the way the facility diagram is drawn. An owner/operator may represent such systems in a less detailed manner on the facility diagram in the SPCC Plan as long as more detailed diagrams of the systems are maintained at the facility and referenced on the diagram. Examples of more detailed diagrams may include blueprints, engineering diagrams, or diagrams developed to comply with other local, state, or federal requirements.

The scale and level of detail of the facility diagram may make it difficult to show small transfer lines within containment structures. Schematic representations that provide a general overview of the piping service (e.g., supply/return) may provide sufficient information when combined with a description of the piping in the Plan. Alternatively, overlay diagrams showing different portions of the piping system may be used where the density and/or complexity of the piping system would make a single diagram difficult to read.

Examples of ways that manufacturing equipment may be represented include a box that identifies the equipment and its location, or a simplified process flow diagram. Figure 6-1, which is an excerpt of a complete facility diagram (Figure 6-4) included later in Section 6.4, provides an example showing how manufacturing equipment may be represented in a facility diagram. For areas of complicated piping, which often include different types, numbers, and lengths of pipes, the facility diagram may show a simplified box labeled “piping” or show a single line that identifies the service (e.g., supply/return), as long as more detailed diagrams are available at the facility. Figure 6-2 provides an example showing how a complex piping area may be represented in a facility diagram, and is also an excerpt of the example facility diagram presented in Figure 6-4.

Figure 6-1. Example showing how manufacturing equipment could be represented in a facility diagram. Note that more detailed diagrams would need to be available at the facility.

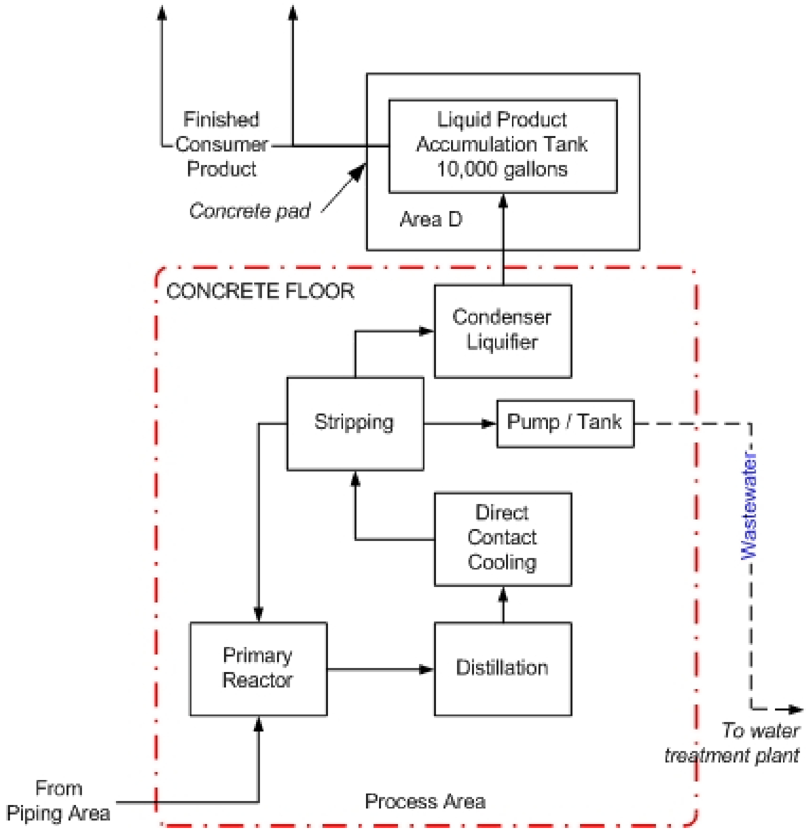
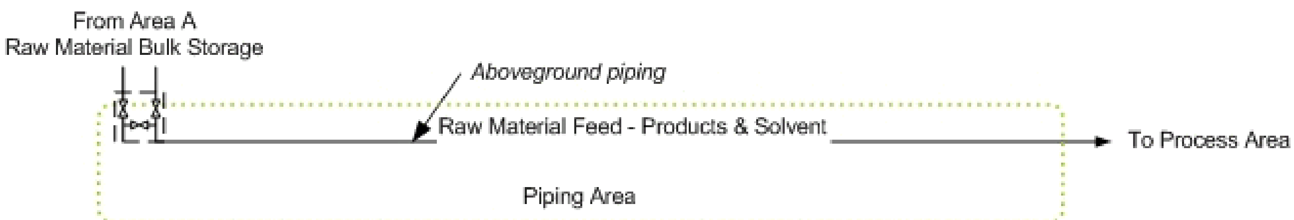


Figure 6-2. Example showing how a complex piping area could be represented in a facility diagram. Note that more detailed diagrams would need to be available at the facility.



6.2.7 Use of State and Federal Diagrams

Some state and federal regulations may require a diagram with similar or overlapping requirements, whereas others do not. SPCC is a federal program that specifies minimum requirements, which states may supplement with more stringent requirements. A facility diagram prepared for a state or federal plan or for other purposes (construction permits, facility modifications, or other pollution prevention requirements) may be used in an SPCC Plan if it meets the requirements of the SPCC rule.

6.3 Facility Diagram Examples

This section includes example facility diagrams for three fictitious SPCC-regulated facilities. These three examples illustrate how certain containers and equipment could be represented in a facility diagram; the examples are provided for the purpose of illustration only. Preparation of a facility diagram is a site-specific effort, and the diagram prepared for a given facility should reflect the level of detail needed to adequately describe the facility configuration. The level of detail and/or approach taken for the examples below may not necessarily be appropriate for a given facility.

It is important to note that facility diagrams, like the other elements of an SPCC Plan, must be prepared in accordance with good engineering practice, and must be reviewed by the PE certifying the Plan (§112.3(d)). Section 112.7(a)(3) requires the facility diagram to show, at a minimum, the location and contents of oil containers; completely buried storage tanks, including those that may otherwise be exempt from the rule; and transfer areas (i.e., stations) and connecting pipes. The facility owner or operator may also include on the diagram additional structures and equipment, and may use the diagram to illustrate other elements that may be relevant to the SPCC Plan and to emergency response. For instance, a diagram may also show the discharge and drainage controls that are described in the SPCC Plan, the predicted flow path for discharged oil based on topography, areas on which to focus inspections, fire-fighting resources, spill response kits, and/or evacuation routes.

Example facility diagrams are presented below for a bulk storage and distribution facility, a manufacturing facility, and an oil production facility.

6.3.1 Example #1: Bulk Storage and Distribution Facility

Figure 6-3 is an example of a diagram for a bulk storage and distribution facility, which has a tank farm, a loading rack and an unloading area, and other oil containers and oil-filled equipment. This diagram corresponds to the model SPCC Plan for a bulk storage distribution facility that is provided in Appendix D of this guidance document. Because it has fewer tanks and less complex operations than a manufacturing facility, for example, this facility requires a less detailed facility diagram than the example provided in Figure 6-4.

As required by §112.7(a)(3), this diagram includes all containers with an oil storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, the diagram provides a reference to a supplementary table that contains the volume and content of the storage tanks shown on the diagram (appended to the diagram as Table B-1). At the discretion of the PE who reviewed and certified the Plan, the example facility diagram also depicts secondary containment methods and includes a reference to calculations of containment capacity provided in other parts of the SPCC Plan. Also, a separate log (Table B-2) identifies the contents of the drums in the storage warehouse. Please refer to Section 6.2.3 of this document for more information.

Figure 6-3. Example facility diagram, including loading and unloading areas.

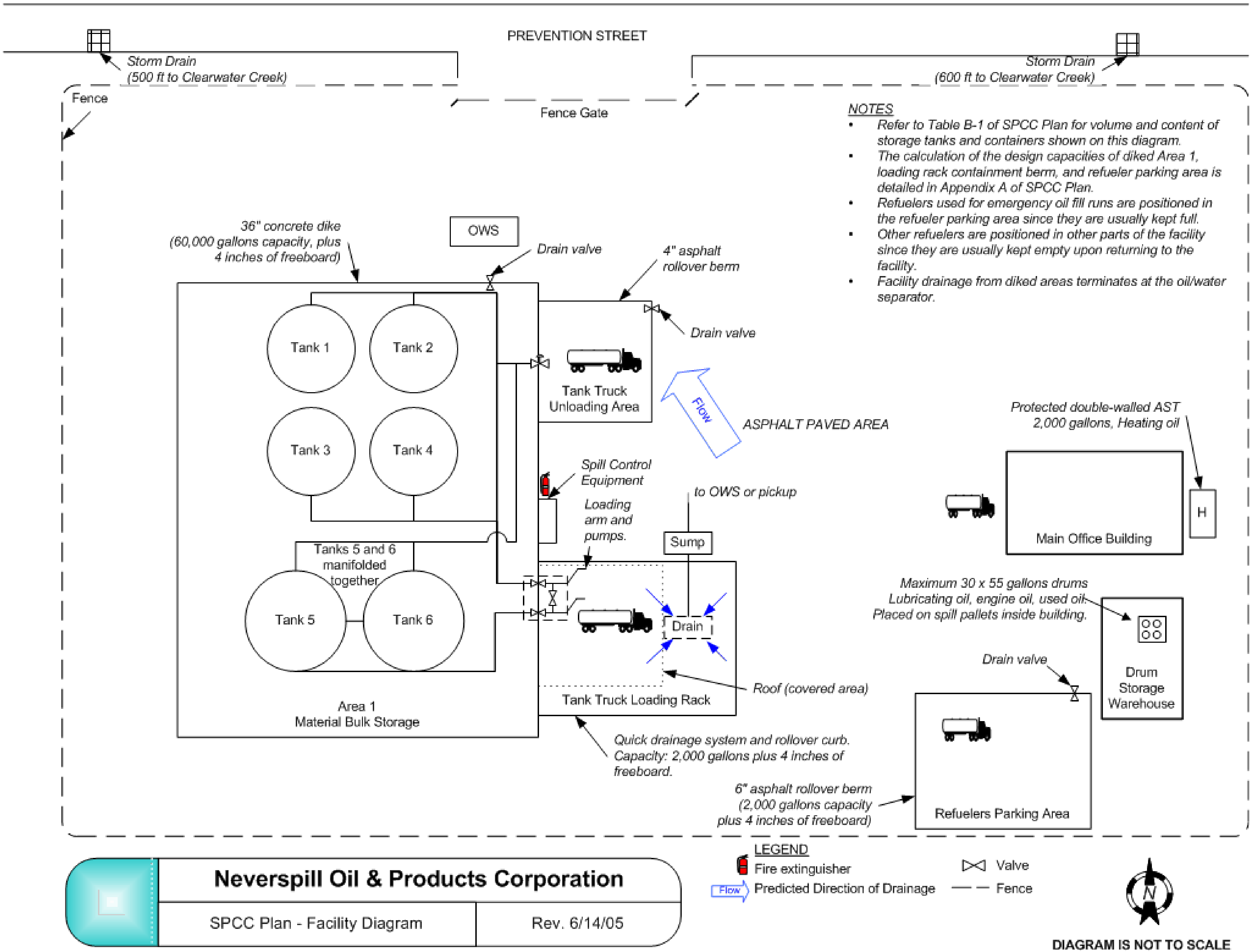


Table B-1. Volume and contents of tanks and containers identified on the facility diagram. Please see facility diagram to identify the areas below.

Tank/Container	Volume (gallons)	Contents
Area 1		
Tank 1	25,000	Product A – #2 fuel oil
Tank 2	25,000	Product A – #2 fuel oil
Tank 3	25,000	Product B – #6 fuel oil
Tank 4	25,000	Product B – #6 fuel oil
Tank 5	30,000	Product C – Kerosene
Tank 6	30,000	Product C – Kerosene
Main Office Building		
Tank H	2,000	Heating oil
Drum Storage Warehouse		
Up to 30 drums	55 (each)	Various oil products (lubricating oil, engine oil, used oil, etc.)

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Table B-2. Drum storage warehouse log.

Date	Number and Type of Container	Contents	Capacity	Location at facility
6/14/05	15 drums	lubrication oil	55 x 15 = 825	Drum storage warehouse
6/14/05	5 drums	engine oil	55 x 5 = 275	Drum storage warehouse
6/14/05	10 drums	used oil	55 x 10 = 550	Drum storage warehouse

6.3.2 Example #2: Manufacturing Facility

Figure 6-4 is an example facility diagram for a large manufacturing facility with a variety of containers and equipment, including piping, oil-filled equipment (i.e., manufacturing equipment and transformers), and completely buried storage tanks. As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or greater. In addition to listing the contents directly on the diagram, it includes a reference to a crosswalk that contains the volume and content of the storage containers shown on the diagram (appended to the diagram as Table B-3). Also, while not required, the diagram marks the location of containers that store CWA hazardous substances and labels those containers. EPA would further recommend that the specific volume and specific contents of the 4,000-gallon solvent tank be included in the crosswalk. Additionally, the diagram notes the location and content of completely buried storage tanks that, although otherwise exempt from the SPCC rule because they meet all the technical requirements of 40 CFR part 280 or an approved state UST program under 40 CFR part 281, must still be included in the diagram in accordance with §112.7(a)(3).

This diagram also includes an example of how manufacturing equipment and complex piping may be represented on a facility diagram. The diagram references the more detailed diagrams and plans of the piping and manufacturing equipment that are available separately at the facility. For more information on ways to represent these systems, please see Section 6.2.6, Piping and Manufacturing Equipment, above.

Finally, while not required to be included in the diagram, this example facility diagram also includes a reference to the calculation of diked storage provided in other parts of the SPCC Plan and depicts wastewater treatment systems, secondary containment, and oil/water separators.

Figure 6-4. Example facility diagram, including manufacturing equipment, complex piping, and completely buried storage tanks.

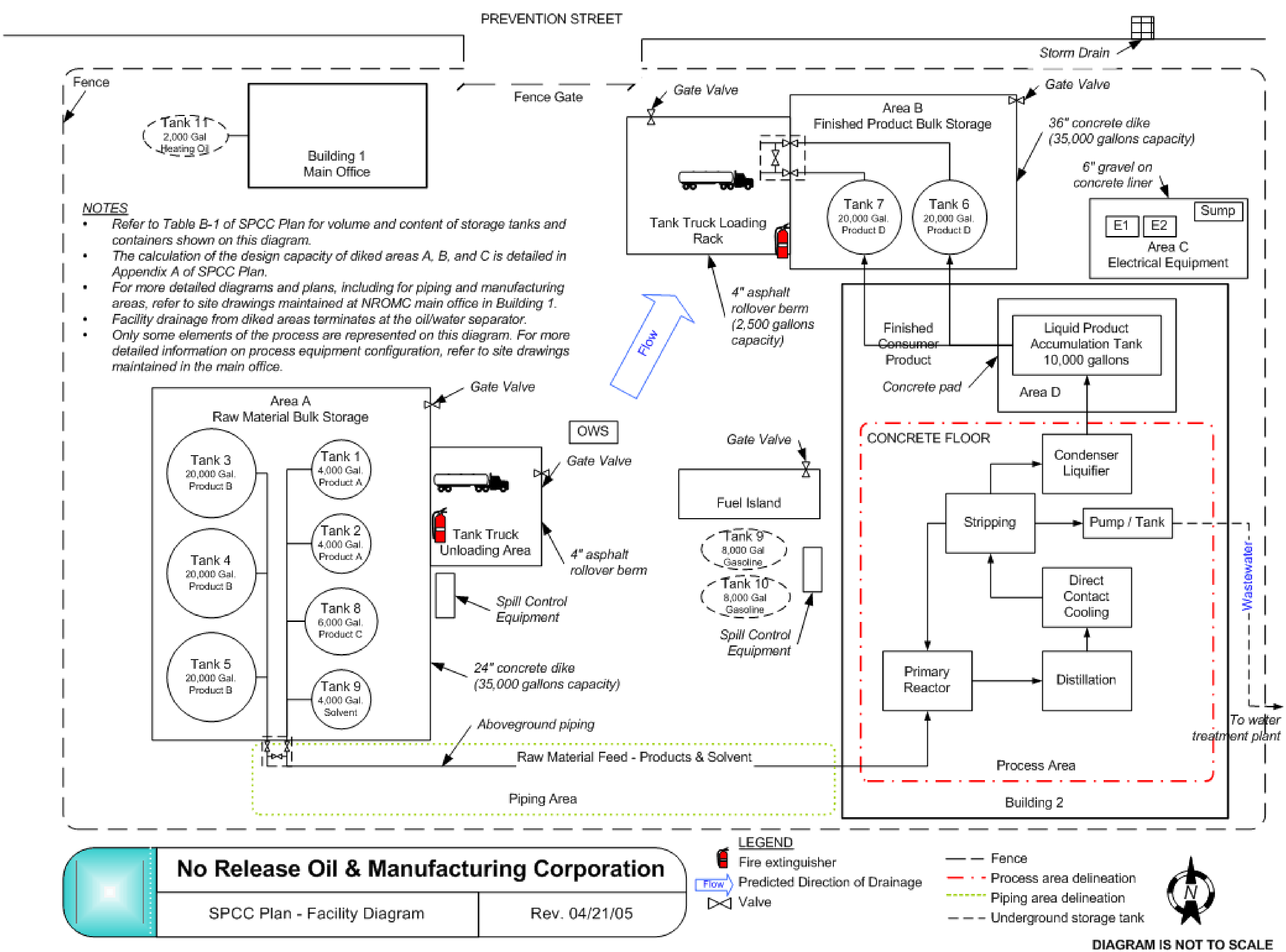

Table B-3. Volume and contents of tanks and containers identified on the facility diagram. Please see facility diagram to identify the areas below.

Tank/Container	**Volume (gallons)**	**Contents**
Area A – Raw Material Bulk Storage		
Tank 1	4,000	Product A – #2 fuel oil
Tank 2	4,000	Product A – #2 fuel oil
Tank 3	20,000	Product B – #6 fuel oil
Tank 4	20,000	Product B – #6 fuel oil
Tank 5	20,000	Product B – #6 fuel oil
Tank 8	6,000	Product C – Kerosene
Tank 9	40,000	Solvent – Toluene
Area B – Finished Product Bulk Storage		
Tank 6	20,000	Product D – proprietary oil
Tank 7	20,000	Product D – proprietary oil
Area C – Electrical Equipment		
Transformer E1	235	Silicon-based dielectric fluid
Transformer E2	235	Silicon-based dielectric fluid
Area D		
Liquid Product Accumulation Tank	10,000	Product D – proprietary oil
Process Area		
Primary Reactor	500	intermediate oil product
Distillation	500	intermediate oil product
Direct Contact Cooling	500	intermediate oil product
Stripping	500	intermediate oil product
Pump/Tank	300	intermediate oil product
Condenser Liquifier	500	intermediate oil product
Underground Storage Tanks		
Tank 9 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 10 (otherwise exempt from SPCC requirements)	8,000	gasoline
Tank 11	2,000	heating oil

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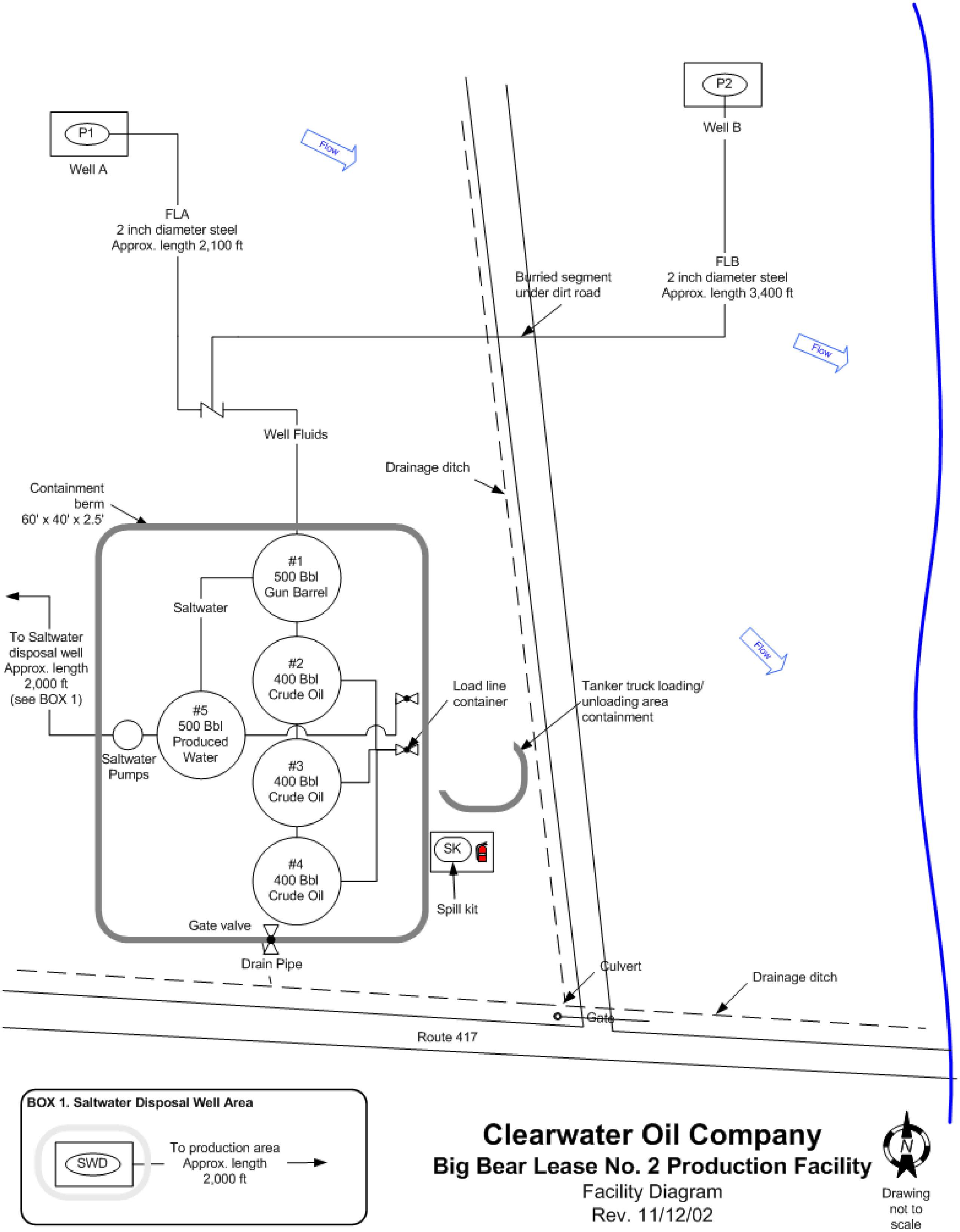
6.3.3 Example #3: Oil Production Facility

Figure 6-5 is an example facility diagram for a small oil production facility with two extraction wells and a production tank battery. As required by §112.7(a)(3), this diagram includes all containers with a storage capacity of 55 gallons or greater and transfer areas. Because the facility has a relatively large footprint, the direction of flow is best displayed on a separate figure that shows the general location of the site relative to receiving waterbodies (Figure 6-6).

Figure 6-5. Example facility diagram for a production facility.



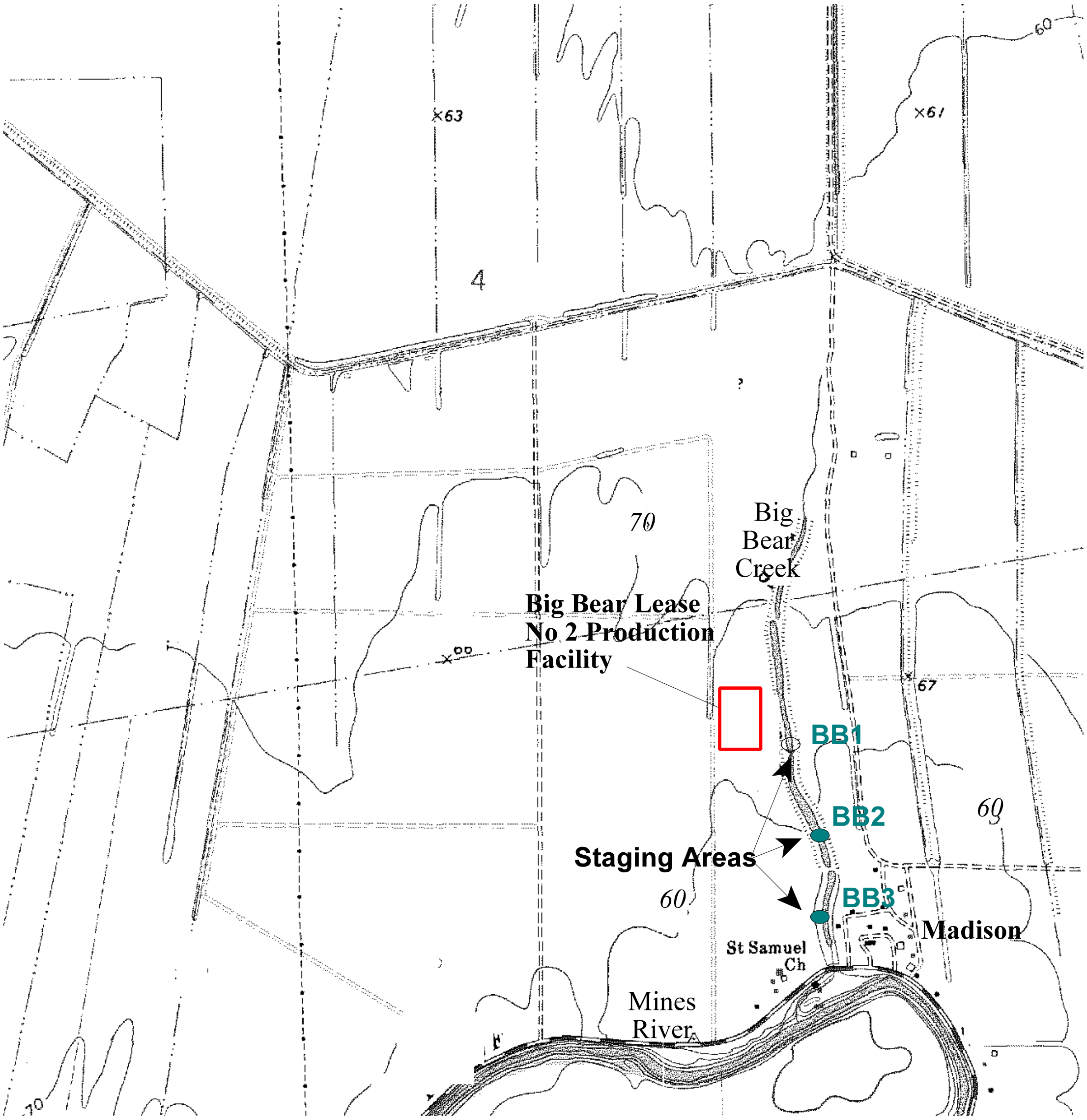


Figure 6-6. Example general facility location diagram for a production facility.

6.4 Review of a Facility Diagram

6.4.1 Documentation by Owner/Operator

By certifying an SPCC Plan, a PE attests that he/she is familiar with the requirements of 40 CFR part 112, that the Plan has been prepared in accordance with good engineering practice, following the requirements of 40 CFR part 112, that the Plan is adequate for the facility, and that he or his agent visited the facility. Thus, if an SPCC Plan is certified by a PE and the facility diagram is consistent with the rule requirements, it will most likely be considered acceptable by regional inspectors. However, if the diagram does not meet these standards of common sense, the facility design has changed, the supporting drawings for a simplified diagram are not available at the facility, or the diagram appears to be inadequate for the facility, appropriate follow-up action may be warranted. This may include a request for more information or a Plan amendment in accordance with §112.4(d).

6.4.2 Role of the EPA Inspector

The inspector should verify that the diagram accurately represents the facility layout and provides sufficient detail as outlined in §112.7(a)(3), and use it as a guide for the containers and piping inspected during the site visit.

The EPA inspector should verify that the diagram included in the Plan includes:

- Location and contents of each container (except those below the *de minimis* container size of 55 gallons as described in Section 6.2.3, above).
- Completely buried tanks, including those that are otherwise exempt from the SPCC rule by §112.1(d)(4).
- All transfer stations and connecting pipes (allowing the flexibility as described in Section 6.2.6, above).

Although EPA generally stated in both the preamble of the 2002 SPCC rule (67 FR 47097) and in §112.7(a)(3) that *all* facility transfer stations and connecting pipes that handle oil must be included in the diagram, it is reasonable to allow flexibility on the method of depicting concentrated areas of piping and manufacturing equipment on the facility diagram. These areas may be represented in a more simplified manner, as long as more detailed diagrams (such as blueprints, engineering diagrams, or process charts) are available at the facility. The inspector may ask to review more detailed diagrams of piping and manufacturing equipment if further information is needed during a site inspection.

INSPECTION, EVALUATION, AND TESTING

7.1 Introduction

Regularly scheduled inspections, evaluations, and testing by qualified personnel are critical parts of discharge prevention. Their purpose is to prevent, predict, and readily detect discharges. They are conducted not only on containers, but also on associated piping, valves, and appurtenances, and on other equipment and components that could be a source or cause of an oil release. Activities may involve one or more of the following: an external visual inspection of containers, piping, valves, appurtenances, foundations, and supports; a non-destructive shell test to evaluate integrity of certain containers; and additional evaluations, as needed, to assess the equipment's fitness for continued service. The type of activity and its scope will depend on the exercise of good engineering practice; not every action will necessarily be applicable to every facility and container, and additional inspections may be required in some cases. An inspection, evaluation, and testing program that complies with SPCC requirements should specify the procedures, schedule/frequency, types of equipment covered, person(s) conducting the activities, recordkeeping practices, and other elements as outlined in this chapter.

The remainder of this chapter is organized as follows:

- **Section 7.2** provides an overview of the SPCC inspection, evaluation, and testing requirements.
- **Section 7.3** discusses specific cases, including the use of environmentally equivalent measures.
- **Section 7.4** discusses the role of the EPA inspector in reviewing a facility's compliance with the rule's inspection, evaluation, and testing requirements.
- **Section 7.5** summarizes industry standards, code requirements, and recommended practices (RPs) that apply to different types of equipment.

7.2 Inspection, Evaluation, and Testing under the SPCC Rule

Various provisions of the SPCC rule relate to the inspection, evaluation, and testing of containers, associated piping, and other oil-containing equipment. Different requirements apply to different types of equipment and to different types of facilities. The requirements are generally aimed at preventing discharges of oil caused by leaks, brittle fracture, or other forms of container failure by ensuring that containers used to store oil have the necessary physical integrity for continued oil storage. The requirements are also aimed at detecting container failures (such as small pinhole leaks) before they can become significant and result in a discharge as described in §112.1(b).

7.2.1 Summary of Inspection and Integrity Testing Requirements

Table 7-1 summarizes the provisions that apply to different types of equipment and facilities. Some inspection and testing provisions apply to bulk storage containers at onshore facilities (other than production facilities). Inspection and/or testing requirements also apply to other components of a facility that might cause a discharge (such as vehicle drains, foundations, or other equipment or devices). Other inspection requirements also apply to oil production facilities. In addition, inspection, evaluation, and testing requirements are required under certain circumstances, such as when an aboveground field-constructed container undergoes repairs, alterations, or a change in service that may affect its potential for a brittle fracture or other catastrophe, or in cases where secondary containment for bulk storage containers is impracticable (§112.7(d), as described in Chapter 4 of this document.) Facility owners and operators must also maintain corresponding records to demonstrate compliance (§§112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), and 112.9(d)(1) and (2)) per §112.7(e).

Table 7-1. Summary of SPCC inspection, evaluation, testing, and maintenance program provisions.

Facility Component	Section(s)	Action	Method, Circumstance, and Required Action
General Requirements Applicable to All Facilities			
Bulk storage with no secondary containment and for which an impracticability determination has been made	112.7(d)	**Test**	Integrity testing.[1] *Periodically. However, because there is no secondary containment, good engineering practice may suggest more frequent testing than would otherwise be scheduled*.
Valves and piping associated with bulk storage containers with no secondary containment and for which an impracticability determination has been made	112.7(d)	**Test**	Integrity and leak testing of valves and piping associated with containers that have no secondary containment as described in §112.7(c). *Periodically.*

[1] Integrity testing is any means to measure the strength (structural soundness) of a container shell, bottom, and/or floor to contain oil, and may include leak testing to determine whether the container will discharge oil. Integrity testing is a necessary component of any good oil discharge prevention plan. It will help to prevent discharges by testing the strength and imperviousness of containers, ensuring they are suitable for continued service under current and anticipated operating conditions (e.g., product, temperature, pressure). Testing may also help facilities determine whether corrosion has reached a point where repairs or replacement of the container is needed, and thus avoid unplanned interruptions in facility operations. (67 FR 47120)

Facility Component	Section(s)	Action	Method, Circumstance, and Required Action
Recordkeeping requirement	112.7(e)	**Record**	Keep written procedures and a signed record of inspections and tests for a period of three years.[2] Records kept under usual and customary business practices will suffice. *For all actions.*
Lowermost **drain** and all outlets of tank car or tank truck	112.7(h)(3)	**Inspect**	Visually inspect. *Prior to filling and departure of tank car or tank truck.*
Field-constructed **aboveground container**	112.7(i)	**Evaluate**	Evaluate potential for brittle fracture or other catastrophic failure. *When the container undergoes a repair, alteration, reconstruction or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe. Based on the results of this evaluation, take appropriate action.*
Subpart B: Onshore Facilities – Petroleum and Other Non-Petroleum Oils Subpart C: Onshore Facilities (Excluding Production Facilities) – Animal Fats and Vegetable Oils			
Onshore Facilities (Excluding Production)			
Diked areas	112.8(b)(1) & 112.8(b)(2) or 112.12(b)(1) & 112.12(b)(2) & 112.8(c)(10) or 112.12(c)(10)	**Inspect**	Visually inspect content for presence of oil. *Prior to draining.* You must promptly remove any accumulations of oil in diked areas.
Buried *metallic* storage tank installed on or after January 10, 1974	112.8(c)(4) or 112.12(c)(4)	**Test**	Leak test. *Regularly.*
Aboveground **bulk storage** container	112.8(c)(6) or 112.12(c)(6)	**Test**	Test container integrity. Combine visual inspection with another testing technique (such as non-destructive shell testing). *Following a regular schedule and whenever material repairs are made.*
Aboveground **bulk storage** container	112.8(c)(6) or 112.12(c)(6) & 112.8(c)(10) or 112.12(c)(10)	**Inspect**	Inspect outside of container for signs of deterioration and discharges. *Frequently.* Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts.

[2] Certain industry standards require recordkeeping beyond three years.

Facility Component	Section(s)	Action	Method, Circumstance, and Required Action
Bulk storage container **supports and foundation**	112.8(c)(6) or 112.12(c)(6)	**Inspect**	Inspect container's supports and foundations. *Following a regular schedule and whenever material repairs are made.*
Diked area	112.8(c)(6) or 112.12(c)(6) & 112.8(c)(10) or 112.12(c)(10)	**Inspect**	Inspect for signs of deterioration, discharges, or accumulation of oil inside diked areas. *Frequently*. You must promptly remove any accumulations of oil in diked areas.
Steam return and exhaust lines	112.8(c)(7) or 112.12(c)(7)	**Monitor**	Monitor for contamination from internal heating coils. *On an ongoing basis*.
Liquid level sensing devices	112.8(c)(8)(v) or 112.12(c)(8)(v)	**Test**	Test for proper operation. *Regularly.*
Effluent treatment facilities	112.8(c)(9) or 112.12(c)(9)	**Observe**	Detect possible system upsets that could cause a discharge. *Frequently.*
Buried piping	112.8(d)(1) or 112.12(d)(1)	**Inspect**	Inspect for deterioration. *Whenever a section of buried line is exposed for any reason.* If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.
Buried piping	112.8(d)(4) or 112.12(d)(4)	**Test**	Integrity and leak testing. *At the time of installation, modification, construction, relocation, or replacement.*
All aboveground **valves, piping, and appurtenances**	112.8(d)(4) or 112.12(d)(4)	**Inspect**	During the inspection, assess general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. *Regularly.*
Onshore Production Facilities			
Diked area	112.9(b)(1)	**Inspect**	Visually inspect content. *Prior to draining.* You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.
Field **drainage systems, oil traps, sumps, and skimmers**	112.9(b)(2)	**Inspect**	Detect accumulation of oil that may have resulted from any small discharge. *Inspect at regularly scheduled intervals.* You must promptly remove any accumulations of oil.
Aboveground containers	112.9(c)(3)	**Inspect**	Visually inspect to assess deterioration and maintenance needs. *Periodically and on a regular schedule.*

Facility Component	Section(s)	Action	Method, Circumstance, and Required Action
Foundations or supports of each container that is on or above the surface of the ground	112.9(c)(3)	**Inspect**	Visually inspect to assess deterioration and maintenance needs. *Periodically and on a regular schedule.*
All aboveground **valves and piping** associated with transfer operations	112.9(d)(1)	**Inspect**	During the inspection, assess general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items. *Periodically and on a regular schedule.*
Saltwater disposal facilities	112.9(d)(2)	**Inspect**	Inspect to detect possible system upsets capable of causing a discharge. *Often, particularly following a sudden change in atmospheric temperature.*
Offshore Oil Drilling, Production, and Workover Facilities			
Flowlines	112.9(d)(3)	**Inspect**	Have a program of flowline maintenance to prevent discharges from each flowline. *Each program may have its own specific and individual inspection, testing, and/or evaluation requirements and frequencies as determined by the PE*.
Sump system (liquid removal system and pump start-up device)	112.11(c)	**Inspect and Test**	Use preventive maintenance inspection and testing program to ensure reliable operation. *Regularly scheduled.*
Pollution prevention equipment and systems	112.11(h) & (i)	**Inspect and Test**	Prepare, maintain, and conduct testing and inspection of the pollution prevention equipment and systems commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems. *On a scheduled periodic basis.*
Sub-marine piping	112.11(p)	**Inspect and Test**	Inspect and test for good operating conditions and for failures. *Periodically and according to a schedule.*

The SPCC rule is a performance-based regulation. Since each facility may present unique characteristics and since methodologies may evolve as new technologies are developed, the rule does not prescribe a specific frequency or methodology to perform the required inspections, evaluations, and tests. Instead, it relies on the use of good engineering practice, based on the professional judgement of the Professional Engineer (PE) who certifies the SPCC Plan considering industry standards. In addition, recommended practices, safety considerations, and requirements of other federal, state, or local regulations may be considered in the development and PE certification of the SPCC Plan. Section 112.3(d) specifically states that the PE certification of a Plan attests that “procedures for required inspections and testing have been established.” Thus, in certifying an SPCC Plan, a PE is also certifying that the inspection program it describes is appropriate for the facility and is consistent with good engineering practice. Section 112.3(d) also states that the Plan must be prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR part 112.

The preamble to the 2002 revised SPCC rule lists examples of industry standards and recommended practices that may be relevant to determining what constitutes good engineering practice for various rule provisions. These industry standards are summarized in Tables 7-2 and 7-3 (Section 7.2.6) and further discussed in Section 7.5. It is important to note, however, that the industry standards may be more specific and more stringent than the requirements in the SPCC rule. For example, EPA does not prescribe a particular schedule for testing. This is because “good engineering practice” and relevant industry standards change over time. In addition, site-specific conditions at an SPCC-regulated facility play a significant role in the development of appropriate inspections and tests and the associated schedule for these activities. For example, the American Petroleum Institute (API) Standard 653, “Tank Inspection, Repair, Alteration, and Reconstruction,” includes a cap on the maximum interval between external and internal inspections, and provides specific criteria for alternative inspection intervals based on the calculated corrosion rate. API 653 also provides an internal inspection interval when the corrosion rates are not known. Similarly, the Steel Tank Institute (STI) Standard SP-001, 3rd Edition, provides specific intervals for external and internal inspection of shop-built containers based on container size and configuration.

Integrity testing requirements for the SPCC rule may be replaced by environmentally equivalent measures as allowed under §112.7(a)(2) and reviewed by the PE who certifies the Plan. Chapter 3 of this guidance provides a general discussion of environmental equivalence, while Section 7.3 discusses its particular relevance to inspection, evaluation, and testing requirements.

7.2.2 Regularly Scheduled Integrity Testing and Frequent Visual Inspection of Aboveground Bulk Storage Containers

Section 112.8(c)(6) of the SPCC rule specifies the inspection and testing requirements for aboveground bulk storage containers at onshore facilities that store, use, or process petroleum oils and non-petroleum oils (except animal fats and vegetable oils). Section 112.12(c)(6) contains the same requirements for facilities with animal fats and vegetable oils.

The provision sets two distinct requirements for aboveground bulk storage containers:

§§112.8(c)(6) and 112.12(c)(6)
Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container’s supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

Note: The above text is only a brief excerpt of the rule. Refer to 40 CFR part 112 for the full text of the rule.

(1) Regularly scheduled integrity testing; and
(2) Frequent visual inspection of the outside of the container.

Regularly scheduled integrity testing. The integrity testing requirements are distinct from, and are in addition to, the requirement to frequently inspect the outside of an aboveground storage container ("visual inspection," see below). The integrity testing requirement applies to large (field-constructed or field-erected) and small (shop-built)[3] aboveground containers; aboveground containers on, partially in (partially buried, bunkered, or vaulted tanks), and off the ground wherever located; and to aboveground containers storing any type of oil.

Generally, visual inspection alone is not sufficient to test the integrity of the container as stated in §§112.8(c)(6) and 112.12(c)(6); it must be combined with another testing technique and must include the container's supports and foundations. Testing techniques include but are not limited to:

- Hydrostatic testing;[4]
- Radiographic testing;
- Ultrasonic testing;
- Acoustic emissions testing; and
- Another system of non-destructive shell testing.

The SPCC rule requires that integrity testing of aboveground bulk storage containers be performed on a regular schedule, as well as when material repairs[5] are made, because such repairs might increase the potential for oil discharges. As stated in the preamble to the final 2002 rule, "Testing on a 'regular schedule' means testing per industry standards or at a frequency sufficient to prevent discharges. Whatever schedule the PE selects must be documented in the Plan" (67 FR 47119). The frequency of integrity tests should reflect the particular conditions of the container, such as the age, service history, original construction specifications, prior inspection results, and the existing condition of the container. It may also consider the degree of risk of a discharge to navigable waters and adjoining shorelines. For example, where secondary containment is inadequate (none provided, insufficient capacity or insufficiently impervious) and adequate

[3] According to STI SP-001, a field-erected aboveground storage tank (AST) is a welded metal AST erected on the site where it will be used. For the purpose of the standard, ASTs are to be inspected as field-erected ASTs if they are either: (a) an AST where the nameplate indicates that it is a field-erected AST, and limited to a maximum shell height of 50 feet and maximum diameter of 30 feet; or (b) an AST without a nameplate that is more than 50,000 gallons and has a maximum shell height of 50 feet and a maximum diameter of 30 feet. A shop-fabricated AST is a welded metal AST fabricated in a manufacturing facility or an AST not otherwise identified as field-erected with a volume less than or equal to 50,000 gallons. (STI SP-001, "Standard for the Inspection of Aboveground Storage Tanks," July 2005)

[4] Hydrostatic testing is allowed per §112.8(c)(6); however, hydrotesting the container may actually result in container failure during the test and should be performed in accordance with industry standards and using the appropriate test media.

[5] Examples of material repairs include removal or replacement of the annular plate ring; replacement of the container bottom; jacking of a container shell; installation of a 12-inch or larger nozzle in the shell; replacement of a door sheet or tombstone in the shell, or other shell repair; or such repairs that might materially change the potential for oil to be discharged from the container.

secondary containment would be impracticable, §112.7(d) requires, among other measures, periodic integrity testing of bulk storage containers. Given the higher potential of a discharge reaching navigable waters or adjoining shorelines, however, the PE may decide, based on good engineering practice, that more frequent integrity tests would be needed than for containers that have adequate secondary containment. This approach of establishing an increased inspection frequency for an aboveground container without secondary containment is used in the STI SP-001 standard.

Frequent visual inspection. There must be a frequent inspection of the outside of the container for signs of deterioration, discharges, or accumulations of oil inside diked areas (§112.8(c)(6)). This visual inspection is intended to be a routine walk-around. EPA expects that the walk-around, which will occur on an ongoing routine basis, can generally be conducted by properly trained facility personnel, as opposed to the more intensive but less frequent visual inspection component of the non-destructive examination conducted by qualified testing/inspection personnel. Qualifications of these personnel are outlined in tank inspection standards, such as API 653 and STI SP-001. A facility owner or operator can, for example, visually inspect the outside of bulk storage containers on a daily, weekly, and/or monthly basis, and supplement this inspection with integrity testing (see above) performed by a certified inspector, with the scope and frequency determined by industry standards or according to a site-specific inspection program developed by the PE.

Oil-filled electrical, operating, and manufacturing devices or equipment are not considered bulk storage containers; therefore, the integrity testing requirements in §§112.8(c)(6) and 112.12(c)(6) do not apply to those devices or equipment. However, EPA recommends that even where not specifically required by the rule, it is good engineering practice to frequently inspect the outside of oil-filled operational, electrical, and manufacturing equipment to determine whether it could cause a discharge. For example, in a food manufacturing process, certain containers that contain edible oil (such as reactors, fermentors, or mixing tanks) are considered oil-filled manufacturing equipment and are not required to undergo integrity testing. Since a discharge as described in §112.1(b) can occur from manufacturing, discharge discovery and thus visual inspection procedures outlined in an SPCC Plan should include this equipment as well as other oil-filled equipment to prevent such a discharge as part of the facility's countermeasures per §112.7(a)(3)(iv) for discharge discovery. Although oil-filled equipment is not subject to the integrity testing requirements under §112.8(c)(6) or §112.12(c)(6), EPA recommends routine inspections at least visually to detect discharges as part of the facility's countermeasures per §112.7(a)(3)(iv) for discharge discovery.

7.2.3 Brittle Fracture Evaluation of Field-Constructed Aboveground Containers

Brittle fracture is a type of structural failure in larger field-constructed aboveground steel tanks characterized by rapid crack formation that can cause sudden tank failure. This, along with catastrophic failures such as those resulting from lightning strikes, seismic activity, or other such events, can cause the entire contents of a container to be discharged to the environment. A review of past failures due to brittle fracture shows that they typically occur (1) during an initial hydrotest,

(2) on the first filling in cold weather, (3) after a change to lower temperature service, or (4) after a repair/modification. Storage tanks with a maximum shell thickness of one-half inch or less are not generally considered at risk for brittle fracture.[6] Brittle fracture was most vividly illustrated by the splitting and collapse of a 3.8 million gallon (120-foot diameter) tank in Floreffe, Pennsylvania, which released approximately 750,000 gallons of oil into the Monongahela River in January 1988.

Section 112.7(i) of the SPCC rule requires that field-constructed aboveground containers that have undergone a repair or change in service that might affect the risk of a discharge due to brittle fracture or other catastrophe, or have had a discharge associated with brittle fracture or other catastrophe, be evaluated to assess the risk of such a discharge. Unless the original design shell thickness of the tank is less than one-half inch (see API 653, Section 5, and STI SP-001, Appendix B), evidence of this evaluation should be documented in the facility's SPCC Plan.

§112.7(i)
If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

Note: The above text is only a brief excerpt of the rule. Refer to 40 CFR part 112 for the full text of the SPCC rule.

In summary, industry standards discuss methods for assessing the risk of brittle fracture failure for a field-erected aboveground container and for performing a brittle fracture evaluation including API 653, "Tank Inspection, Repair, Alteration, and Reconstruction," API RP 920 "Prevention of Brittle Fracture of Pressure Vessels," and API RP 579, "Fitness-for-Service." These standards include a decision tree or flowchart for use by the owner/operator and PE in assessing the risk of brittle fracture. STI SP-001 also addresses brittle fracture failures for smaller diameter field-erected tanks with a wall thickness less than one-half inch.

7.2.4 Inspections of Piping

For onshore facilities, the SPCC rule specifies the following inspection and testing requirements for piping. Buried piping at non-production facilities that has been installed or replaced on or after August 16, 2002, must have a protective wrapping and coating and be protected from corrosion cathodically or by other means, as per §§112.8(d)(1) and 112.12(d)(1). Any exposed line must be inspected for deterioration, and, if corrosion damage is found, additional inspection or corrective action must be taken as needed.

Aboveground piping, valves, and appurtenances at non-production facilities must be regularly inspected, as per §§112.8(d)(4) and 112.12(d)(4) and in accordance with industry

[6] McLaughlin, James E. 1991. "Preventing Brittle Fracture of Aboveground Storage Tanks – Basis for the Approach Incorporated into API 653." Case Studies: Sessions III and IV of the IIW Conference: Fitness for Purpose of Welded Structures. October 23-24, 1991, Key Biscayne, Florida, USA. Cosponsored by the American Welding Society, Welding Research Institute, Welding Institute of Canada, and International Institute of Welding. Published by the American Welding Society, Miami, Florida. Pages 90-110.

standards. Buried piping must be integrity and leak tested at the time of installation, modification, construction, relocation, or replacement.

Aboveground valves and piping associated with transfer operations at production facilities must be inspected periodically and on a regular schedule, as per §112.9(d)(1) and in accordance with industry standards. A program of flowline maintenance is required by §112.9(d)(3) and is described in the following section of this document.

For offshore facilities, §112.11(n) specifies that all piping appurtenant to the facility must be protected from corrosion, such as with protective coatings or cathodic protection. Section 112.11(p) requires that sub-marine piping appurtenant to the facility be maintained in good operating condition at all times, and that such piping be inspected or tested for failures periodically and according to a schedule.

In addition, if the owner/operator determines that these required measures are not practicable, periodic integrity and leak testing of valves and piping must be conducted, as per §112.7(d).

7.2.5 Flowline Maintenance

The objective of the SPCC flowline maintenance program requirement (§112.9(d)(3)) is to help prevent oil discharges from production flowlines, e.g., the piping that extends from the pump/well head to the production tank battery. Common causes of such discharges include mechanical damage (i.e., impact, rupture) and corrosion. A flowline maintenance program aims to manage the oil production operations in a manner that reduces the potential for a discharge. It usually combines careful configuration, inspection, and ongoing maintenance of flowlines and associated equipment to prevent and mitigate a potential discharge. EPA recommends that the scope of a flowline maintenance program include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate. EPA suggests that facility owner/operators conduct inspections either according to industry standards or at a frequency sufficient to prevent a discharge as described in §112.1(b). EPA is aware that API attempted to develop an industry standard for flowline maintenance, but the standard has not been finalized. However, according to practices recommended by industry groups, such as API, a comprehensive piping (flowline) program should include the following elements:

- **Prevention measures** that avert the discharge of fluids from primary containment;
- **Detection measures** that identify a discharge or potential for a discharge;
- **Protection measures** that minimize the impact of a discharge; and
- **Remediation measures** that mitigate discharge impacts by relying on limited or expedited cleanup.

If a standard for flowline maintenance is developed, inspectors are encouraged to review this standard. At present, the details below serve to guide the inspector in reviewing the scope of a flowline maintenance program. If an impracticability determination under §112.7(d) is made for flowlines for secondary containment required by §112.7(c), EPA inspectors should extensively review the adequacy of the flowline maintenance program along with the contingency plan (67 FR 47078).

A flowline maintenance program should ensure that flowlines, associated equipment, and safety devices are kept in good condition and would operate as designed in the event of a discharge. The PE certifying the Plan will typically establish the scope and frequency of inspections, tests, and preventive maintenance based on industry standards, manufacturer's recommendations, and other such sources of good engineering practice.

General Spill Prevention

The maintenance program should ensure that the equipment is configured and operated to prevent discharges. Adequate supports and signage should be maintained to help prevent mechanical damage to aboveground flowlines. Finally, the maintenance program should ensure the proper operation of safety devices such as low-pressure sensors and safety shut-down valves to mitigate the extent of a spill in the event of a flowline rupture.

Corrosion Protection

Internal corrosion may be prevented through the use of compatible materials (PVC, fiberglass, coatings) or by the addition of corrosion inhibitors. External corrosion may be prevented through the use of compatible materials, coatings/wrappings, and/or cathodic protection.

Periodic Examination

Visual observation of the flowlines by facility personnel should be included as part of any flowline maintenance program and is of paramount importance for those facilities with flowlines that have no secondary containment and rely on rapid spill detection to implement a contingency plan in a timely manner. Facility personnel may "walk the flowlines" or perform aerial fly-overs, if they are located aboveground, to detect any evidence of leakage. The visual inspection should cover the piping, flange joints, valves, drip pans, and supports, and look for signs of corrosion, deterioration, leakage, malfunction, and other problems that could lead to a discharge. The frequency of inspections can vary according to their scope, the presence of secondary containment, and the detection capability needed to ensure prompt implementation of a contingency plan (if no containment is present), and may include daily, monthly, quarterly, or annual inspections. Regular visual inspection may be supplemented by periodic integrity testing using non-destructive evaluation methods, such as ultrasonic or other techniques to determine remaining wall thickness, or hydrostatic testing at a pressure above normal operating pressure. This guidance document refers to some relevant industry standards that describe methods used to test the integrity of piping, such as API 570 and ASME B31.4.

Flowline Replacement and Recordkeeping

The facility's SPCC Plan should describe how the flowlines are configured, monitored, and maintained to prevent discharges. The program is to be implemented in the field, and facility personnel responsible for the maintenance of the equipment should be aware of the flowline locations and be familiar with maintenance procedures, including replacement of damaged and/or leaking flowlines. Records of inspections and tests kept under usual and customary business practices should be prepared and made available for review, as required by the rule (§112.7(e)).

If an impracticability determination is made for flowlines, the flowline maintenance program should be shown to be adequate along with the contingency plan (67 FR 47078).

7.2.6 Role of Industry Standards and Recommended Practices in Meeting SPCC Requirements

The SPCC rule does not require the use of a specific industry standard for conducting inspections, evaluations, and integrity testing of bulk storage containers and other equipment at the facility. Rather, the rule provides flexibility in the facility owner/operator's implementation of the requirement, consistent with good engineering practice, as reviewed by the PE certifying the Plan.

To develop an appropriate inspection, evaluation, and testing program for an SPCC-regulated facility, the PE must consider applicable industry standards (§112.3(d)(1)(iii)). If the facility owner or operator uses a specific standard to comply with SPCC requirements, the standard should be referenced in the Plan. Where no specific and general industry standard exists to inform the determination of what constitutes good engineering practice for a particular inspection or testing requirement, the PE should consider the manufacturer's specifications and instructions for the proper use and maintenance of the equipment, appurtenance, or container. If neither a specific and objective industry standard nor a specific and objective manufacturer's instruction apply, the PE may also call upon his/her professional experience to develop site-specific inspection and testing requirements for the facility or equipment as per §112.3(d)(1)(iv). The inspection and testing program must be documented in the Plan (§112.7(e)). A checklist is provided as Table 7-5 at the end of this chapter to assist inspectors in reviewing the relevant industry standards based on the equipment observed at an SPCC-regulated facility.

In the preamble to the 2002 SPCC rule, EPA provides examples of industry standards that may constitute good engineering practice for assessing the integrity of different types of containers for oil storage (67 FR 47120). Compliance with other industry standards and federal requirements may also meet SPCC inspection, evaluation, and testing requirements. The U.S. Department of Transportation (DOT) regulates containers used to transport hazardous materials, including certain oil products. For example, mobile/portable containers that leave a facility are subject to the DOT construction and continuing qualification and maintenance requirements (49 CFR part 178 and 49 CFR part 180). These DOT requirements may be used by the facility owner and operator and by the certifying PE as references of good engineering practice for assessing the fitness for service of mobile/portable containers.

Industry standards typically apply to containers built according to a specified design (API 653, for example, applies to tanks constructed in accordance with API 650 or API 12C); the standards describe the scope, frequency, and methods for evaluating the suitability of the containers for continued service. This assessment usually considers performance relative to specified minimum criteria, such as ability to maintain pressure or remaining shell thickness. The integrity testing is usually performed by inspectors licensed by the standard-setting organizations (e.g., American Petroleum Institute, Steel Tank Institute).

Table 7-2 summarizes key elements of industry standards (and recommended practices) commonly used for testing aboveground storage tanks (ASTs). Table 7-3 summarizes key elements of standards (and recommended practices) used for testing piping and other equipment. Section 7.5 of this chapter provides a more detailed description of the standards listed in the tables. Other industry standards exist for specific equipment or purposes. Many of these are cross-referenced in API 653, including publications and standards from other organizations such as the American Society for Testing and Materials (ASTM), the American Society for Non-Destructive Testing (ASNT), and the American Society of Mechanical Engineers (ASME). Other organizations, such as the National Fire Protection Association (NFPA), the National Association of Corrosion Engineers (NACE), and the Underwriters Laboratory (UL), also provide critical information on all container types and appurtenances.

Table 7-2. Summary of industry standards and recommended practices (RP) for ASTs.

	API 653	STI SP-001	API RP 575	API RP 12R1
Equipment covered	Field-fabricated, welded, or riveted ASTs operating at atmospheric pressure and built according to API 650.	ASTs including shop-fabricated and field-erected tanks and portable containers and containment systems.	Atmospheric and low-pressure ASTs.	Atmospheric ASTs employed in oil and gas production, treating, and processing.
Scope	Inspection and design; fitness for service; risk.	Determined by the type of material stored within the tank and the operating temperature. Inspection of tanks by the owner/ operator and certified inspectors.	Inspection and repair of tanks.	Setting, connecting, maintaining, operating, inspecting, and repairing tanks.
Inspection interval	*Certified inspections*: Dependent on tank's service history. Intervals from 5 to 20 years. *Owner inspections*: monthly.	*Certified inspection*s: Inspection intervals and scope based on tank size and configuration. *Owner inspections*: monthly, quarterly, and yearly.	Same as API 653.	Scheduled and unscheduled internal and external inspections conducted as per Table 1 of the Recommended Practice.
Inspection performed by	Certified inspector, tank owner.	Certified inspector, either by API or STI.	Same as API 653.	Competent person or qualified inspector, as defined in recommended practice.
Applicable section of this document	Section 7.5.1	Section 7.5.2	Section 7.5.3	Section 7.5.4

Table 7-3. Summary of industry standards and recommended practices (RP) for piping, valves, and appurtenances.

	API 570	API RP 574	API RP 1110	ASME B31.3	ASME B31.4
Equipment covered	In-service aboveground and buried metallic piping	Piping, tubing, valves and fittings in petroleum refineries and chemical plants	Liquid petroleum pipelines (pressure testing)	Process piping for oil, petrochemical, and chemical processes	Pressure piping for liquid hydrocarbons and other liquids
Scope	Inspection, repair, alteration, and rerating procedures	Inspection practices	Procedures, equipment, and factors to consider during pressure testing	Minimum safety requirements for design, examination, and testing	Safe design, construction, inspection, testing, operation, and maintenance
Inspection interval	Based on likelihood and consequence of failure (“risk-based”), maximum of 10 years	Based on five factors	–	As part of quality control function	Not specified
Inspection performed by	Certified piping inspector	Authorized piping inspector	–	Qualified Inspector, as defined in standard	Qualified Inspector, as defined in standard
Applicable section of this document	Section 7.5.5	Section 7.5.6	Section 7.5.7	Section 7.5.10	Section 7.5.11

“-“ means that the standard provides no specific information for the element listed.

7.3 Specific Circumstances

Integrity testing (a combination of visual inspection and another testing technique) is required for all aboveground bulk storage containers located at onshore facilities (except production facilities), unless the facility owner/operator implements an environmentally equivalent method (as described in Chapter 3 and in Section 7.3.4, below) and documents the deviation in the SPCC Plan. Typically, visual inspection is combined with non-destructive shell testing in order to adequately assess the container condition. EPA has indicated that visual inspection alone may provide equivalent environmental protection in some cases, if certain conditions are met and if the inspections are conducted at appropriate time intervals (see Section 7.3.4 of this document) in accordance with good engineering practice. Therefore, if the Plan calls for visual inspection *alone* in accordance with an industry standard, then the Plan must discuss the reason for the nonconformance with §112.8(c)(6) or §112.12(c)(6) and comply with the environmental equivalence provision in §112.7(a)(2).

Some facilities may not have performed integrity testing of their tanks. In this case, developing an appropriate integrity testing program will require assessing baseline conditions for these tanks. This “baseline” will provide information on the condition of the tank shell, and the rate of change in condition due to corrosion or other factors, in order to establish a regular inspection schedule. Section 112.7 requires that if any facilities, procedures, methods, or equipment are not yet fully operational, the SPCC Plan must explain the details of installation and operational start-up; this applies to the inspection and testing programs required by the rule. For all types of facilities, the PE is responsible for making the final determination on the scope and frequency of testing when certifying that an SPCC Plan is consistent with good engineering practice and is appropriate for the facility.

This section provides guidance on integrity testing for the following circumstances the inspector may encounter at an SPCC-regulated facility:

- Aboveground bulk storage containers for which the baseline condition is known;
- Aboveground bulk storage containers for which the baseline condition is *not* known;
- Deviation from integrity testing requirements based on environmental equivalence; and
- Environmental equivalence scenarios for shop-built containers.

This is not a comprehensive list of circumstances. For these and other cases, the PE may recommend alternative approaches.

7.3.1 Aboveground Bulk Storage Container for Which the Baseline Condition Is Known

In the case of tanks for which the baseline condition is known (e.g., the shell thickness and corrosion rates are known), the inspection and testing schedule should typically occur at a scope and frequency based on industry standards (or the equivalent developed by a PE for the site-specific SPCC Plan) per §112.8(c)(6) or §112.12(c)(6). There is an advantage to knowing the baseline condition of a tank, particularly if the remaining wall thickness and the corrosion rate are known. Only when the baseline is known can an inspection and testing program be established on a regular schedule. The inspection interval should be identified consistent with specific intervals per industry standards or should be based on the corrosion rate and expected remaining life of the container. This inspection interval must be documented in the Plan in accordance with §§112.3(d), 112.7(e), 112.8(c)(6), and 112.12(c)(6). API 653 is an example of an industry standard that directs the owner/operator to consider the remaining wall thickness and the established corrosion rate to determine an inspection interval for external and internal inspections and testing.

Inspection and testing standards may require visual inspection of both the exterior and interior of the container, and the use of another method of non-destructive evaluation depending on the type and configuration of the container. Inspectors should note that the scope and frequency of inspections and tests for shop-built tanks and field-erected tanks at an SPCC-regulated facility may vary due to the age of the tank, the configuration, and the applicable industry standard used as the reference. For example, the PE may choose to develop an inspection and testing program for the facility's shop-built tanks in accordance with STI SP-001, and may elect to develop the program for the facility's field-erected tanks in accordance with API 653. As an alternative example, the PE may elect to develop a program in accordance with STI SP-001 for the facility's shop-built tanks and for its field-erected tanks of a certain capacity and size. For containers at facilities storing animal fats and vegetable oils, the PE may elect to develop a hybrid testing program building upon elements of both API 653 and STI SP-001 or only one of the standards.

7.3.2 Aboveground Bulk Storage Container for Which the Baseline Condition Is Not Known

For a facility to comply with the requirement for integrity testing of containers on a regular schedule (§§112.8(c)(6) and 112.12(c)(6)), a baseline condition for each container is necessary to establish inspection intervals. The PE must attest that procedures for required inspections and testing have been established (§112.3(d)(1)(iv)). However, for shop-built and field-erected containers for which construction history and wall and/or bottom plate thickness baselines *are not known,* a regular integrity testing program cannot be established. Instead, the PE must describe in the SPCC Plan an interim schedule (in accordance with the introductory paragraph of §112.7) that allows the facility to gather the baseline data to establish a regular schedule of integrity testing in accordance with §§112.8(c)(6) and 112.12(c)(6). It should be noted that the introductory paragraph of §112.7 of the SPCC rule allows for the Plan to describe procedures, methods, or equipment that are not yet operational, and include a discussion of the details.

When a container has no prior inspection history or baseline information, the implementation of the baseline inspection program is important in order to assess the container's "suitability for continued service." Both API 653 and STI SP-001 include details on how to assess a container's suitability for continued service. In some cases, where baseline information is not known, the testing program may include two data collection periods to establish a baseline of shell thickness and corrosion rate in order to develop the next inspection interval (or "regular" schedule), or an alternative inspection schedule established by the PE in accordance with good engineering practice.

When no baseline information is available for a container, the PE may schedule visual inspection and another testing technique within the first five-year review cycle of the SPCC Plan in order to establish a regular integrity testing schedule based on current container conditions. In this example, the review cycle would begin on the revised rule implementation deadline of August 18, 2006, so the first (baseline) container inspection and integrity test would be completed by August 18, 2011. In the case of a tank that is newly built, construction data (e.g., as-built drawings and/or manufacturers cut-sheets) may typically be used as an initial datum point to establish wall thicknesses and would be included in the established procedures for inspection and testing.

The implementation, particularly in establishing inspection priorities, of the testing program should be in accordance with good engineering practice and include consideration of industry standards (§112.3(d)), as discussed in this document. For instance, special consideration may be discussed in the Plan for containers for which the age and existing condition is not known (no baseline information exists). For example, older tanks or tanks in more demanding service may be identified as high-priority tanks for inspection, versus tanks for which the baseline information is

Figure 7-1. Example baselining plan to determine the integrity testing and inspection schedule.

Scenario:
Facility has three aboveground atmospheric, mild-carbon steel tanks of different ages and conditions. Some have prior inspection histories; others have never been inspected. Although there is limited history available for tank construction, the tanks are presumed to be field-erected tanks and to each have 100,000 gallons in storage capacity. What is an appropriate inspection schedule for these tanks? API 653 is the referenced inspection standard.

Additional information:
API 653 recommends a formal visual inspection every 5 years or ¼ of corrosion rate, whichever is less, and a non-destructive shell test (UT) within 15 years or ½ of corrosion rate, whichever is less. If corrosion rates are not known, the maximum interval is 5 years. An internal inspection of the bottom of the tank is to be done based on corrosion rates. If the corrosion rate is known, the interval cannot exceed 20 years. If the corrosion rate is unknown, the interval cannot exceed 10 years.

Determination of inspection schedule:

	Construction Date	Last Inspection	Next Inspection (External)	Next Inspection (Internal)
Tank 1	unknown	none	formal visual and shell test (external) within first five-year Plan review cycle	formal (internal) bottom inspection within first five-year Plan review cycle
Tank 2	2001	none	**2006** for both visual inspection and non-destructive shell test	**2011** (i.e., not to exceed 10 years when corrosion rate of tank bottom is not known)
Tank 3	1984	1994	**1999 & 2004** formal visual **2009** non-destructive shell test both intervals may be decreased based on calculated corrosion rates from the 1994 inspection.	**2014** or less based on calculated corrosion rates from the 1994 inspection

Note: Actual inspection schedule is ultimately an engineering determination made by the PE, based on industry standards, and is certified in the Plan.

known.

An example baselining plan is presented in Figure 7-1. The example presents a simple scenario and is only provided as an illustration of some of the factors that may be considered when determining a schedule to initiate inspections of bulk storage containers.

7.3.3 Deviation from Integrity Testing Requirements Based on Environmental Equivalence

Chapter 3 of this document describes the flexibility provided in the SPCC rule through the use of environmental equivalent measures, per §112.7(a)(2). The discussion below describes examples of measures that facility owners and operators can use to deviate from inspection and testing requirements, while providing equivalent environmental protection.

The SPCC rule provides flexibility regarding integrity testing requirements of bulk storage containers, as long as the alternatives provide equivalent environmental protection per §112.7(a)(2). Measures that may be considered environmentally equivalent to integrity testing for shop-built containers are those that effectively minimize the risk of container failure and that allow detection of leaks before they become significant. Alternative measures to integrity testing requiring the combination of internal, external, and non-destructive evaluation may, for example, prevent container failure by minimizing the container's exposure to conditions that promote corrosion (e.g., direct contact with soil), or they may enable facility personnel to detect leaks and other container integrity problems early so they can be addressed before more severe integrity failure occurs. The ability to use an environmentally equivalent alternative to integrity testing will often hinge on the degree of protection provided by the tank configuration and secondary containment. EPA believes that larger tanks (including larger shop-built tanks) may require inspection by a professional inspector, in addition to the visual inspection by the tank owner/operator during the tank's life. EPA defers to applicable industry standards and to the certifying PE as to the type and scope of inspections required in each case. However, the inspector should look for a clear rationale for the development of the inspection and testing program, paying close attention to the referenced industry standard.

EPA believes that environmental equivalence may be appropriate in other situations. For example, facilities that store edible oils as part of a food manufacturing process may adhere to very strict housekeeping and maintenance procedures that involve ongoing visual inspection and routine cleaning of the exterior and interior of the containers (which are elevated so all sides are visible or sit on a barrier that allows for rapid detect of a leak) by facility personnel. As part of these routine inspections, small leaks can be detected before they can cause a discharge as defined in §112.1(b). The PE certifying the facility's SPCC Plan may determine, upon considering applicable food-related regulations, industry standards, and site-specific conditions, that such inspections and housekeeping procedures provide environmental protection equivalent to performing an integrity test on these containers.

As with other requirements eligible for environmental equivalence provision, the measures implemented as alternatives to integrity testing required under §112.8(c)(6) or §112.12(c)(6) may not be measures already required to meet another part of the SPCC rule. A facility may not rely solely on measures that are required by other sections of the rule (e.g., secondary containment) to provide "equivalent environmental protection." Otherwise, the deviation provision would allow for approaches that provide a lesser degree of protection overall. However, for certain tank sizes and configurations of secondary containment, continuous release detection and frequent visual inspection by the owner/operator may be the sole inspection requirement, provided that the rationale is discussed in the Plan (STI SP-001). This rationale should include a discussion of good engineering practice referencing appropriate industry standards.

7.3.4 Environmental Equivalence Scenarios for Shop-Built Containers

Figure 7-2. Drums elevated on a storage rack. Drums are also subject to secondary containment requirements for bulk storage in §112.8(c)(2).

Scenario 1: Elevated Drums. As EPA has indicated in the 2002 preamble to the revised SPCC rule, certain smaller shop-built containers (e.g., 55-gallon drums) for which internal corrosion poses minimal risk of failure, which are inspected at least monthly, and for which all sides are visible (i.e., the container has no contact with the ground), visual inspection alone might be considered to provide equivalent environmental protection, subject to good engineering practice (67 FR 47120). In fact, certain industry standards also reference these conditions as good engineering practice. For example, elevating storage drums on an appropriately designed storage rack (as shown in Figure 7-2) such that all sides are visible allows the effective visual inspection of containers for early signs of deterioration and leakage, and is therefore considered environmentally equivalent to the requirement for integrity testing beyond visual inspection for these smaller bulk storage containers. Note that the drums, even if elevated, remain subject to the bulk storage secondary containment requirements in §112.8(c)(2) or §112.12(c)(2). Determination of environmental equivalence is subject to good engineering practice, including consideration of industry standards, as certified by the PE in accordance with §112.3(d).

Scenario 2: Single-Use Bulk Storage Containers. For containers that are single-use and for dispensing only (i.e., the container is not refilled), EPA recognizes that industry standards typically require only visual examination by the owner/operator. Since these containers are single-use, internal or comparative integrity testing for corrosion is generally not appropriate because the containers are not maintained on site for a long enough period of time that degradation and deterioration of the container's integrity might occur. Single-use containers (e.g., 55-gallon drums) typically are returned to the vendor, recycled, or disposed of in accordance with applicable regulations. Good engineering practices for single-use containers should be identified in the Plan, and these practices should ensure that the conditions of storage or use of a container do not subject it to potential corrosion or other conditions that may compromise its integrity in its single-use lifetime. Typically, good engineering practice recommends that these containers be elevated (usually on pallets or other support structures) to minimize bottom corrosion and to facilitate a visual inspection of all sides of the container to detect any leaks during the regular owner/operator inspections outlined in the Plan. Determination of environmental equivalence is subject to good engineering practice, including consideration of industry standards, as certified by the PE in accordance with §112.3(d).

When the container is fully emptied and meets the definition of a permanently closed container (§112.2) (including labeling), it is not subject to the SPCC requirements, including the integrity testing requirements. In this case, the capacity of the container does not count toward the facility threshold capacity. If the container is refilled on site, however, it is not considered a single-use container, and is therefore subject to the integrity testing requirements of the rule.

Scenario 3: Elevated shop-built containers. For certain shop-built containers with a shell capacity of 30,000 gallons or under, EPA considers that visual inspection provides equivalent environmental protection when accompanied by certain additional actions to ensure that the containers are not in contact with the soil. These actions include elevating the container in a manner that decreases corrosion potential and makes all sides of the container, including the bottom, visible during inspection. Examples of adequate measures include elevating shop-built containers on properly designed tank saddles as illustrated in Figure 7-3 and described in EPA's letter to PMAA.[7] Determination of environmental equivalence is subject to good engineering practice, including consideration of industry standards, as certified by the PE in accordance with §112.3(d).

Figure 7-3. Shop-built containers elevated on saddles.

Scenario 4: Shop-built containers placed on a liner. For certain shop-built containers with a shell capacity of 30,000 gallons or under, visual inspection, plus certain additional actions to ensure the containment and detection of leaks, is also considered by EPA to provide equivalent environmental protection. Actions may include placing the containers onto a barrier between the container and the ground, designed and operated in a way that ensures that any leaks are immediately detected. For example, placing a shop-built container on an adequately designed, maintained, and inspected synthetic liner would generally provide equivalent environmental protection. Determination of environmental equivalence is subject to good engineering practice, including consideration of industry standards, as certified by the PE in accordance with §112.3(d).

Other Situations. Although the scenarios discussed above primarily address shop-built tanks, environmental equivalence may be used for other types of bulk storage containers, subject to good engineering practice. In any case where the owner or operator of a facility uses an alternative means of meeting the integrity testing requirement of §112.8(c)(6) or §112.12(c)(6), the SPCC Plan must provide the reason for the deviation, describe the alternative approach, and explain how it achieves equivalent environmental protection (§112.7(a)(2)), while considering good engineering practice and industry standards. The description of the alternative approach should address how

[7] For more information, refer to EPA's letter to the Petroleum Marketers Association of America, available on EPA's Web site at http://www.epa.gov/oilspill/pdfs/PMAA_letter.pdf.

the approach complies or deviates from industry inspection standards and how it will be implemented in the field. For example, if the alternative approach involves the visual inspection of the containers, the SPCC Plan should describe the key elements of this inspection, including the inspection frequency and scope, the training and/or qualifications of individuals conducting the inspections, and the records used to document the inspection. If the alternative measure relies on engineered systems to mitigate corrosion (e.g., coatings, cathodic protection) or to facilitate early detection of small leaks, the SPCC Plan should describe how such systems are maintained and monitored to ensure their effectiveness. For instance, where the alternative measure relies on the presence of a liner, the Plan should discuss how the liner is adequately designed, maintained, and inspected. This discussion may consider such factors as life expectancy stated by the manufacturer (from cut-sheets), as-built specifications, and inspection and maintenance procedures.

As discussed above, the environmental equivalence provision applies to the inspection and appropriate integrity testing of bulk storage containers at §§112.8(c)(6), 112.9(c)(3), and 112.12(c)(6). PEs have the flexibility to offer environmental equivalent integrity testing options for all classes of tanks, including shop-built tanks above 30,000 gallon capacity and field-erected tanks, if the rationale is provided referencing appropriate industry standards.

7.4 Documentation Requirements and Role of the EPA Inspector

The facility SPCC Plan must describe the scope and schedule of examinations to be performed on bulk storage containers (as required in §§112.3(d)(1)(iv), 112.7(e), 112.8(c)(6), 112.9(c)(3), and 112.12(c)(6)), and should reference an applicable industry inspection standard or describe an equivalent program developed by the PE, in accordance with good engineering practice. If a PE specifies a hybrid inspection and testing program, then the EPA inspector should verify that the testing program covers minimum elements for the inspections, the frequency of inspections, and their scope (e.g., wall thickness, footings, tank supports). See Section 7.5 for a list of suggested minimum standards.

A hybrid testing program may be appropriate for a facility where an industry inspection standard does not yet contain enough specificity for a particular facility's universe of tanks and/or configuration, or while modifications to an industry inspection standard are under consideration. For example, a tank user may have made a request to the industry standard-setting organizations recommending a change or modification to a standard. Both API and STI have mechanisms to allow tank users (and the regulatory community) to request changes to their respective inspection standards. In this case, the modification to a standard may be proposed, but not yet accepted by the standard-setting organization. In the meantime, the facility is still subject to the SPCC requirements to develop an inspection and testing program. In this scenario, a hybrid inspection and testing program may be appropriate. When reviewing the scope and schedule of a hybrid program, the inspector should review whether an industry inspection standard and appropriate good engineering practices were used in the development of the hybrid program.

The facility must maintain records of all visual inspections and integrity testing, as required by the SPCC rule in §§112.7(e), 112.8(c)(6), 112.9(c)(3), and 112.12(c)(6). Records do not need to be specifically created for this purpose, and may follow the format of records kept under usual and customary business practices. These records should include the frequent inspections performed by facility personnel. Also, industry standards generally provide example guidelines for formal tank inspections, as well as sample checklists. The EPA inspector should review the inspection checklists used by the facility to verify that they cover at least the minimum elements and are in accordance with the PE-certified inspection and testing program. The tank inspection checklist from Appendix F of 40 CFR part 112, reproduced as Table 7-6 at the end of this chapter, provides an example of the type of information that may be included on an owner/operator-performed inspection checklist.

The EPA inspector should review records of frequent visual inspections by facility personnel as well as regular integrity testing of the container. Comparison records maintained at the facility will aid in determining a container's suitability for continued service. Both API 653 and STI SP-001 contain details on determining a container's suitability for continued service. Though §112.7(e) requires retention of all records for a period of three years, industry standards usually recommend retention of certified inspection and non-destructive examination reports for the life of the container.

In cases where the SPCC Plan has not identified a regularly scheduled inspection and testing program, the inspector should request information on the anticipated schedule (e.g., when a baseline has not been established). If the facility has not performed any integrity testing of bulk storage containers so far, the EPA inspector should verify that the SPCC Plan describes: (1) the strategy for implementing an inspection and testing program and collecting baseline conditions within ten years of the installation date of the tank, or during the first five-year Plan cycle (or another schedule as identified and certified by a PE); and (2) the ongoing testing program that will be established once the baseline information has been collected. When the inspection program establishes inspection priorities for multiple containers, the inspector should consider the rationale for these priorities as described in the SPCC Plan and verify implementation.

The EPA inspector should review records of regular and periodic inspections and tests of buried and aboveground piping, valves, and appurtenances. Such inspections may be visual or conducted by other means.

The inspector reviewing a maintenance program, such as the flowline maintenance program required under §112.9(d)(3) for oil production facilities, should verify that the Plan describes how the flowlines are configured, monitored, and maintained to prevent discharges. The inspector should also verify that the program is implemented in the field; for example, by verifying that facility personnel responsible for the maintenance of the equipment are aware of the flowline locations and are familiar with maintenance procedures, including replacement of damaged and/or leaking flowlines.

If an impracticability determination is made for secondary containment of flowlines, the EPA inspector should extensively review the adequacy of the flowline maintenance program along with the contingency plan (67 FR 47078).

In summary, the EPA inspector should verify that the owner or operator has inspection reports that document the implementation of the testing, evaluation, or inspection criteria set forth in the Plan. He/she may also verify whether the recommended actions that affect the potential for a discharge have been taken to ensure the integrity of the container/piping until the next scheduled inspection or replacement of the container/piping. When an inspection procedure is outlined in the Plan that does not meet the requirement of §§112.8(c)(6) and 112.12(c)(6) (e.g., a combination of visual inspection and another testing technique), the inspector should verify that the Plan includes a discussion of an environmentally equivalent measure in accordance with §112.7(a)(2). Implementation of the SPCC Plan as certified by the PE is the responsibility of the facility owner/operator (§112.3(d)(2)).

By certifying an SPCC Plan, the PE attests that the Plan has been prepared in accordance with good engineering practice, that it meets the requirements of 40 CFR part 112, and that it is adequate for the facility. Thus, if testing, evaluation, or inspection procedures have been reviewed by the certifying PE and are properly documented, they should generally be considered acceptable by the EPA inspector. However, if testing, evaluation, or inspection procedures do not meet the standards of common sense, appear to be at odds with recognized industry standards, do not meet the overall objective of oil spill response/prevention, or appear to be inadequate for the facility, appropriate follow-up action may be warranted. In this case, the EPA inspector should clearly document any concerns to assist review and follow-up by the Regional Administrator. The EPA inspector may also request additional information from the facility owner or operator regarding the testing, evaluation, or inspection procedures provided in the Plan.

7.5 Summary of Industry Standards and Regulations

This section provides an overview and description of the scope and key elements of pertinent industry inspection standards, including references to relevant sections of the standards. Additionally, the section discusses the minimum elements for a so-called “hybrid” inspection program for unique circumstances for which industry inspections standards do not contain enough specificity for a given facility’s tank universe and configuration, or for which the PE chooses to deviate from the industry standards based on professional judgement. When words such as “must,” “required,” and “necessary,” or other such terms are used in this section, they are used in describing what the various standards state and are not considered requirements imposed by EPA, unless otherwise stated in the regulations.

Industry standards are technical guidelines created by experts in a particular industry for use throughout that industry. These guidelines assist in establishing common levels of safety and common practices for manufacture, maintenance, and repair. Created by standard-setting organizations using a consensus process, the standards establish the minimum accepted industry practice. The SPCC rule (§112.3(d)(1)(iii)) requires that the Plan be prepared in accordance with good engineering practices, including the consideration of applicable industry standards. Use of a particular standard is voluntary. If a standard (or parts of a standard) is incorporated into a facility's SPCC Plan, then adherence to that standard is mandatory for implementation of the Plan.

Although these guidelines are often grouped together under the term "standards," several other terms are used to differentiate among the types of guidelines:

- **Standard (or code)**—set of instructions or guidelines. Use of a particular standard is voluntary. Some groups draw a distinction between a standard and a code. The American Society of Mechanical Engineers (ASME), for example, stipulates that a code is a standard that "has been adopted by one or more governmental bodies and has the force of law..."
- **Recommended practice**—advisory document often useful for a particular situation.
- **Specification**—may be one element of a code or standard or may be used interchangeably with these terms.

7.5.1 API Standard 653 – Tank Inspection, Repair, Alteration, and Reconstruction

API Standard 653 – Tank Inspection, Repair, Alteration, and Reconstruction (API 653)[8] provides the minimum requirements for maintaining the integrity of carbon and alloy steel tanks built to API Standard 650 (Welded Steel Tanks for Oil Storage) and its predecessor, API 12C (Welded Oil Storage Tanks). API 653 may also be used for any steel tank constructed to a tank specification.[9]

API 653 covers the maintenance, inspection, repair, alteration, relocation, and reconstruction of welded or riveted, non-refrigerated, atmospheric pressure, aboveground, field-fabricated, vertical storage tanks after they have been placed in service. The standard limits its scope to the tank foundation, bottom, shell, structure, roof, attached appurtenances, and nozzles to the face of the first flange, first threaded joint, or first welding-end connection. The standard is intended for use by those facilities that utilize engineering and inspection personnel technically trained and experienced in tank design, fabrication, repair, construction, and inspection. Section 1 of the standard introduces the standard and details its scope. Sections 2 and 3 of the standard list the works cited and definitions used in the standard, respectively.

The standard requires that a tank evaluation be conducted when tank inspection results reveal a change in a tank from its original physical condition. Sections 4 and 5 of the standard describe procedures for evaluating an existing tank's suitability for continued operation or a change of service; for making decisions about repairs or alterations; or when considering dismantling, relocating, or reconstructing an existing tank. Section 4 of the standard details the procedures to

[8] API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction," Third Edition, Addendum 1, American Petroleum Institute, September 2003.

[9] See Section 1.1.3 of API Standard 653.

follow in evaluating the roof, shell, bottom, and foundation of the tank. Section 5 of the standard provides a decision tree to evaluate a tank's risk of brittle fracture.

Section 6 focuses on factors to consider when establishing inspection intervals and covers detailed procedures for performing external and internal tank integrity inspections. Inspection intervals are largely dependent upon a tank's service history. The standard establishes time intervals for when routine in-service inspections of the tank exterior are to be conducted by the owner/operator and when external visual inspections are to be conducted by an authorized inspector. External ultrasonic thickness (UT) inspections may also be conducted periodically to measure the thickness of the shell and are used to determine the rate of corrosion. Time intervals for external UT inspections are also provided and are based on whether or not the corrosion rate is known.

Internal inspections (Section 6.4 of the standard) primarily focus on measuring the thickness of the tank bottom and assessing its integrity. Measured or anticipated corrosion rates of the tank bottom can be used to establish internal inspection intervals; however, the inspection interval cannot exceed 20 years using these criteria. Alternatively, risk-based inspection (RBI) procedures, which focus attention specifically on the equipment and associated deterioration mechanisms presenting the most risk to the facility (Section 6.4.3 of the standard), can be used to establish internal inspection intervals; an RBI may increase or decrease the 20-year inspection interval. API 653 states that an RBI assessment shall be reviewed and approved by an authorized tank inspector and a tank design/corrosion engineer. If a facility chooses to use RBI in the development of a tank integrity testing program, the EPA inspector should verify that these parties conducted the initial RBI assessment.

An external inspection (Section 6.5 of the standard) can be used in place of an internal inspection to determine the bottom plate thickness in cases where the external tank bottom is accessible due to construction, size, or other aspects. If chosen, this option should be documented and included as part of the tank's permanent record. Owners/operators should maintain records that detail construction, inspection history, and repair/alteration history for the tank (Section 6.8 of the standard). Section 6.9 of the standard stipulates that detailed reports should be filed for every inspection performed.

Sections 7 through 11 of API 653 do not address integrity testing, but instead focus on the repair, alteration, and reconstruction of tanks. Section 12 provides specific criteria for examining and testing repairs made to tanks. Section 13 addresses the specific requirements for recording any evaluations, repairs, alterations, or reconstructions that have been performed on a tank in accordance with this standard. Appendix A to API 653 provides background information on previously published editions of API welded steel storage tank standards. Appendix B details the approaches that are used to monitor and evaluate the settlement of a tank bottom.[10] Appendix C provides sample checklists that the owner/operator can use when developing inspection intervals and specific procedures for internal and external inspections of both in-service and out-of-service

[10] See Section 1.1.3 of API 653.

tanks. The requirements for authorized inspector certification are the focus of Appendix D. Certification of authorized tank inspectors, which is valid for three years from the date of issue, requires the successful completion of an examination, as well as a combination of education and experience. Technical inquiries related to the standard are the focus of Appendix E. Appendix F summarizes the non-destructive examination (NDE) requirements for reconstructed and repaired tanks. Technical inquiries regarding the use of the standard can be made through API's Web site (www.api.org). Selected responses to technical inquiries are provided in the Technical Inquiry appendices of the standard.

7.5.2 STI Standard SP-001 – Standard for the Inspection of Aboveground Storage Tanks

STI Standard SP-001 – Standard for the Inspection of Aboveground Storage Tanks (SP-001)[11] provides the minimum inspection requirements and evaluation criteria required to determine the suitability for continued service of aboveground storage tanks until the next scheduled inspection. Only aboveground tanks included in the scope of this standard are applicable for inspection per this standard. Other standards, recommended practices, and other equivalent engineering and best practices exist that provide alternative inspection requirements for tanks defined within the scope of this standard and for tanks outside the scope of this standard. For example, API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction," provides additional information pertaining to tanks built to API 650 and API 12C. API 12R1, "Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service," pertains to tanks employed in production service or other similar service.

SP-001 applies to the inspection of aboveground storage tanks, including shop-fabricated tanks, field-erected tanks, and portable containers, as defined in this standard, as well as the containment systems. The inspection and testing requirements for field-erected tanks are covered separately in Appendix B of the standard. Specifically, the standard applies to ASTs storing stable, flammable, and combustible liquids at atmospheric pressure with a specific gravity less than approximately 1.0 and those storing liquids with operating temperatures between ambient temperature and 200 degrees Fahrenheit (93.3˚C). At a minimum, the following tank components shall be inspected (as applicable): tank, supports, anchors, foundation, gauges and alarms, insulation, appurtenances, vents, release prevention barriers, and spill control systems.

Section 3 addresses safety considerations, and Section 4 addresses AST inspector qualifications.

Section 5 of the standard addresses the criteria, including AST type, size, type of installation, corrosion rate, and previous inspection history, if any, that should be used to develop a schedule of inspections for each AST. Table 5.5 (Table of Inspection Schedules) places tanks into one of three categories and establishes different requirements regarding the type and frequency of periodic inspection by tank owner/operators as well as formal external and internal inspections by a

[11] STI Standard SP-001, "Standard for the Inspection of Aboveground Storage Tanks," 3rd Edition, Steel Tank Institute, July 2005.

certified inspector. The factors used for categorizing tanks include tank size, whether or not the tank is in contact with the ground, the presence or absence of secondary containment (or spill control), and the presence or absence of a continuous release detection method (CRDM).

Section 6 provides guidelines for the periodic inspections conducted by the owner or his/her designee. The owner's inspector is to complete an AST Record for each AST or tank site, as well as a Monthly Inspection Checklist and an Annual Inspection Checklist. Monthly inspections should monitor water accumulation to prevent Microbial Influenced Corrosion (MIC), and action should be taken if MIC is found. Additional requirements for field-erected tanks are in Appendix B of SP-001.

Section 7 of SP-001 contains the minimum inspection requirements for formal external inspections, which are to be performed by a certified inspector. Inspections should cover the AST foundations, supports, secondary containment, drain valves, ancillary equipment, piping, vents, gauges, grounding system (if any), stairways, and coatings on the AST. Original shell thickness should be determined using one of several suggested methods. Ultrasonic Thickness Testing (UTT) readings are to be taken at different locations of the AST depending upon whether the AST is horizontal, vertical, rectangular, and/or insulated. The final report should include field data, measurements, pictures, drawings, tables, and an inspection summary, and should specify the next scheduled inspection.

Section 8 of the standard details the minimum inspection requirements for formal internal inspections, which are to be performed by a certified inspector. A formal internal inspection includes the requirements of an external inspection with some additional requirements for specific situations that are outlined in the standard. Double-wall tanks and secondary containment tanks may be inspected by checking the interstice for liquid or by other equivalent methods. For elevated ASTs where all external surfaces are accessible, the internal inspection may be conducted by examining the tank exterior using such methods as Ultrasonic Thickness Scans (UTS). For all other situations, entry into the interior of the AST is necessary. Internal inspection guidelines are detailed separately for horizontal ASTs and for vertical and rectangular ASTs in Sections 8.2 and 8.3, respectively. Additional requirements for field-erected tanks are in Appendix B. The final report should contain elements similar to reports prepared for external inspections.

Section 9 addresses leak testing methods. For shop-fabricated ASTs, the standard references the Steel Tank Institute Recommended Practice R912, "Installation Instructions for Shop Fabricated Stationary Aboveground Storage Tanks for Flammable, Combustible Liquids." The standard also references DOT regulations for portable containers:

- 49 CFR part 173.28, Reuse, reconditioning, and remanufacturing of packagings, mainly for drums;
- 49 CFR part 178.803, Testing and certification of intermediate bulk containers (IBCs); and
- 49 CFR part 180.605, or equivalent, for portable container testing and recertification.

Section 10 addresses the suitability for continued service based on the results of formal internal and/or external inspections. For ASTs that show signs of damage caused by MIC, the criteria for assessing their suitability for continued service differ based on the category they fall into (as per Section 5 of SP-001). Categories refer to the level of reduction of the shell thickness. For other tank damage, an engineer experienced in AST design or a tank manufacturer should determine if an inspection is required for any AST that was exposed to fire, natural disaster, excessive settlement, overpressure, or damage from cracking.

Section 11 of the standard details recordkeeping requirements. Appendix A presents supplemental technical information including terms commonly associated with ASTs, and Appendix B presents information for the inspection of field-erected ASTs.

For more information on SP-001, please visit the Steel Tank Institute Web site, http://www.steeltank.com.

7.5.3 API Recommended Practice 575 – Inspection of Atmospheric and Low-Pressure Storage Tanks

API Recommended Practice 575 – Inspection of Atmospheric and Low-Pressure Storage Tanks[12] (API RP 575), which supplements API 653, covers the inspection of atmospheric tanks (e.g., cone roof and floating roof tanks) and low-pressure storage tanks (i.e., those that have cylindrical shells and cone or dome roofs) that have been designed to operate at pressures from atmospheric to 15 pounds per square inch gauge (psig). (API RP 572 covers tanks operating above 15 psig.) In addition to describing the types of storage tanks and standards for their construction and maintenance, API RP 575 also covers the reasons for inspection, causes of deterioration, frequency and methods of inspection, methods of repair, and the preparation of records and reports. API RP 575 applies only to the inspection of atmospheric and low-pressure storage tanks that have been in service. Section 1 of API RP 575 introduces the recommended practice and details its scope. Section 2 lists the references that are cited in the recommended practice.

Section 3 of API RP 575 describes selected methods for non-destructive examination of tanks, including ultrasonic thickness measurement, ultrasonic corrosion testing, ultrasonic shear wave testing, and magnetic flux testing. Section 4 describes the construction materials and design standards, use, and specific types of atmospheric and low-pressure storage tanks. Section 5 covers the reasons for inspection and causes of deterioration of both steel and non-steel storage tanks. Section 5 also covers the deterioration and failure of auxiliary equipment.

Section 6 of API RP 575 addresses inspection frequency; it mainly defers to the inspection frequency requirements described in API 653. Section 7 covers the methods of inspection and inspection scheduling. It addresses the external inspection of both in-service and out-of-service

[12] API RP 575, "Inspection of Atmospheric and Low-Pressure Storage Tanks," 1st ed., American Petroleum Institute, November 1995.

tanks and the internal inspection of out-of-service tanks. Section 7 provides some information about scheduling tank inspections, but it mostly defers to API 653. Section 8 addresses the methods for repairing tanks. Recordkeeping and inspection reports are the focus of Section 9, which stresses the importance of keeping complete records. Appendix A of the recommended practice provides a typical field record form and history card. Appendix B contains a typical tank report form. Appendix C provides sample checklists for internal and external tank inspections.

7.5.4 API Recommended Practice 12R1 – Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service

API Recommended Practice 12R1 – Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service (API RP 12R1)[13] provides guidance on new tank installations and maintenance of existing production tanks. These tanks are often referred to as "upstream" or "extraction and production (E&P) tanks." The recommended practices are primarily intended for tanks fabricated to API Specifications 12B, D, F, and P that are employed in on-land production service.[14] This said, the basic principles in the recommended practices can also be applied to other atmospheric tanks that are employed in similar oil and gas production, treating, and processing services; however, they are not applicable to refineries, marketing bulk stations, petrochemical plants, or pipeline storage facilities operated by carriers. According to the recommended practice, tanks that are fabricated to API Standards 12C or 650 should be maintained in accordance with API 653, summarized above.

Sections 1, 2, and 3 of API RP 12R1 describe the scope of the standard, the 19 standards it references, and the relevant definitions, respectively. The remaining four main sections describe the recommended practices. Section 4 provides recommended practices for setting of new or relocated tanks and connecting tanks. Section 5 recommends practices for safe operation and spill prevention for tanks.[15] Section 6 details the recommended practices for routine operational and external and internal condition examinations, internal and external inspections, maintenance of tanks, and recordkeeping. Table 1 of this recommended practice details the type of observations, frequency, and associated personnel requirements for internal and external tank inspections. Records from these inspections should be retained with permanent equipment records. Finally, Section 7 provides guidance for the alteration or repair of various tank components. API RP 12R1 also contains nine appendices detailing the recommended requirements of qualified inspectors, sample calculations for venting requirements, observations regarding shell corrosion and brittle fracture, checklists for internal and external condition examinations and inspections, details regarding the minimum thickness of tank elements, and various figures and diagrams.

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[13] API Recommended Practice 12R1, "Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service," 5th edition. American Petroleum Institute. August 1997.

[14] API Specifications 12B, D, F, and P correspond to bolted tanks for storage of production liquids, field welded tanks for storage of production liquids, shop welded tanks for storage of production liquids, and specification for fiberglass reinforced plastic tanks, respectively.

[15] Section 7 of API RP 12R1 states that "..the spill prevention and examination/inspection provisions of this recommended practice should be a companion to the spill prevention control and countermeasures (SPCC) to prevent environmental damage."

7.5.5 API 570 – Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems

API 570 – Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems (API 570)[16] covers inspection, repair, alteration, and rerating procedures for metallic piping systems that have been in service. API 570 was developed for the petroleum refining and chemical process industries. In-service piping systems covered by API 570 include those used for process fluids, hydrocarbons, and similar flammable or toxic fluids. API states that this standard is not a substitute for the original construction requirements governing a piping system before it is placed in service. API 570 is intended for use by organizations that maintain or have access to an authorized inspection agency; a repair organization; and technically qualified piping engineers, inspectors, and examiners. The owner/operator is responsible for implementing a piping system inspection program, controlling the inspection frequencies, and ensuring the maintenance of piping systems in accordance with this standard.

Section 5, the first substantive section of the standard, addresses the specific inspection and testing practices for in-service piping systems. Section 6 addresses the frequency and extent of inspection of piping. Inspection intervals for piping are based largely on the likelihood and consequence of failure (i.e., they are risk-based), which takes into account the corrosion rate and remaining life calculations; piping service classification; applicable jurisdictional requirements; and the judgement of the inspector, the piping engineer, the piping engineer supervisor, or a corrosion specialist. Table 6-1 of API 570 provides maximum inspection intervals for piping based on piping service classification (Class 1 poses the highest risk of an emergency if a leak were to occur; Class 2, which includes the majority of unit process piping, poses an intermediate risk; Class 3 poses the lowest risk) and the corrosion measurement technique (i.e., thickness measurements or visual external inspection) that is used. In general, the maximum inspection interval for in-service piping should be between five years for Class 1 piping to ten years for Class 3 piping.

Section 7 of the standard addresses data evaluation, analysis, and recording. The owner/operator should maintain permanent records for all piping systems covered by API 570. Section 8 provides guidelines for repairing, altering, and rerating piping systems. Inspecting buried process piping is different from inspecting other process piping because the inspection is hindered by the inaccessibility of the affected areas of the piping; therefore, API 570 addresses the inspection of buried piping separately in Section 9. Appendices A, B, C, and D of API 570 address inspector certification, technical inquiries, examples of repairs, and the external inspection checklist for process piping, respectively.

[16] API 570, "Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems," 2nd ed., American Petroleum Institute, October 1998.

7.5.6 API Recommended Practice 574 – Inspection Practices for Piping System Components

API Recommended Practice 574 – Inspection Practices for Piping System Components (API RP 574)[17] covers inspection practices for piping, tubing, valves (other than control valves), and fittings used in petroleum refineries and chemical plants. API RP 574 is not specifically intended to cover specialty items, such as control valves, level gauges, and instrument controls columns, but many of the inspection methods are applicable to these items. API RP 574 provides more detailed information about piping system components and inspection procedures than API 570. Section 1 introduces the recommended practice and details its scope. Sections 2 and 3, respectively, list the references and definitions used throughout the recommended practice.

Section 4, which begins the substantive portion of the recommended practice, details the types, material specifications, sizes, and other characteristics of the components of the piping system, which include the piping, tubing, valves, and fittings. This section of the recommended practice also addresses the common joining methods used to assemble piping components. Section 5 of API RP 574 presents the rationale for inspecting the piping system: to maintain safety, attain reliable and efficient operation, and meet regulatory requirements. The procedures for monitoring the piping system components for corrosion and inspecting for deterioration are the focus of Section 6. Section 7 provides guidelines for establishing the frequency and time (i.e., while equipment is operating or while equipment is shut down) of inspection. Similar to API 570, this recommended practice uses the following conditions to determine the frequency of inspection: the consequences of a failure (piping classification, see summary of API 570 for a description), the degree of risk, the amount of corrosion allowance remaining, the historical data available, and the regulatory requirements.

Section 8 of API RP 574 outlines the safety precautions that should be taken and preparatory work that should be performed prior to inspecting the piping system components. The inspection tools commonly used to inspect piping are tabulated in Section 9 of this recommended practice. Section 10 details the specific procedures that should be followed when inspecting the components of the piping system. This section also covers the inspection of underground piping (Section 10.3) and new construction (Section 10.4). Section 11 describes the procedures a piping engineer should follow to determine the thickness at which piping and valves and flanged fittings should be retired. Recordkeeping is the focus of Section 12. Appendix A of the recommended practice provides an external inspection checklist for process piping.

[17] API RP 574, “Inspection Practices for Piping System Components,” 2nd ed., American Petroleum Institute, June 1998.

7.5.7 API Recommended Practice 1110 – Pressure Testing of Liquid Petroleum Pipelines

API Recommended Practice 1110 – Pressure Testing of Liquid Petroleum Pipelines (API RP 1110)[18] provides guidance regarding the procedures, equipment, and factors to consider when pressure testing new and existing liquid petroleum pipelines. Pressure testing uses a liquid test medium (typically water) to apply internal pressure to a segment of pipe above its normal or maximum operating pressure for a fixed period of time under no-flow conditions to verify that the "test segments have the requisite structural integrity to withstand normal and maximum operating pressures[19] and to verify that they are capable of liquid containment." This testing should be performed by "test personnel" in accordance with ASME B31.4 [20] and 49 CFR part 195.[21]

Sections 1 and 2 of API RP 1110 describe the scope of the standard and publications it references, respectively. Section 3 explains how the pressure testing, performed one segment of pipe at a time, should be executed. Generally this is done by filling a section of pipe with the testing medium and increasing the pressure from its static pressure level at a controlled rate. Pipe connections are tested for leaks during the pressurization and after the test pressure has been reached.

Complete records of the testing should be kept, including information on any failures, the places they occurred, and the methods of repair they require in order to comply with ASME B31.4, 49 CFR part 195, and any other applicable regulations. The final part of API RP 1110 is Appendix A, which provides samples of various test record forms.

7.5.8 API Recommended Practice 579, Fitness-for-Service, Section 3

This recommended practice[22] addresses "Assessment of Existing Equipment for Brittle Fracture" and provides guidelines for evaluating the resistance to brittle fracture of existing carbon and low alloy steel pressure vessels, piping, and storage tanks. If the results of the fitness-for-service assessment indicate that the AST is suitable for the current operating conditions, then the equipment can continue to be operated under the same conditions provided that suitable monitoring/inspection programs are established. API RP 579 is intended to supplement and augment the requirements in API 653. That is, when API 653 does not provide specific evaluation procedures or acceptance criteria for a specific type of degradation, or when API 653 explicitly allows the use of fitness-for-service criteria, API RP 579 may be used to evaluate the various types of degradation or test requirements addressed in API 653.

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[18] API Recommended Practice 1110, "Pressure Testing of Liquid Petroleum Pipelines," 4th edition, American Petroleum Institute, March 1997.

[19] This does not include low-pressure pneumatic testing.

[20] ASME B31.4, "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols."

[21] U.S. Department of Transportation. Research and Special Programs Administration (49 CFR part 195).

[22] API Recommended Practice 579, "Fitness for Service," 1st Edition, American Petroleum Institute, January 2000.

A brittle fracture assessment may be warranted based on operating conditions and/or the condition of the AST. API RP 579 provides separate brittle fracture assessment procedures for continued service based on three levels. All three apply to pressure vessels, piping, and tankage, although a separate assessment procedure is provided for tankage.

- Level 1 assessments are used for equipment that meets toughness requirements in a recognized code or standard (e.g., API 650).
- Level 2 assessments exempt equipment from further assessment and qualify it for continued service based on one of three methods. These methods are based on operating pressure and temperature; performance of a hydrotest; or the materials of construction, operating conditions, service environment, and past operating experience.
- Level 3 assessments, which normally utilize a fracture mechanics methodology, are used for tanks that do not meet the acceptance criteria for Levels 1 and 2.

A decision tree in API RP 579 (Figure 3.2, Brittle Fracture Assessment for Storage Tanks) outlines this assessment procedure. The Level 1 and Level 2 brittle fracture assessment procedures are nearly identical to those found in API 653, Section 5, with a few notable exceptions: API 653 does not use the Level 1 and Level 2 designations; API 653 applies only to tanks that meet API 650 (7th edition or later) construction standards, whereas API 579 applies to tanks that meet toughness requirements in the “current construction code”; and the two standards set a different limit on the maximum membrane stress (the stress forces that form within the shell as a result of the pressure of the liquid inside the vessel). There is, however, one major difference between API 653 and API 579: API 653, Section 5, does not allow for an exemption of the hydrostatic test requirement as API 579 does. API 579 allows for a probabilistic evaluation of the potential for brittle fracture using engineering calculations (i.e., a Level 3 assessment) in lieu of the hydrostatic test.

7.5.9 API Standard 2610 - Design, Construction, Operation, Maintenance, and Inspection of Terminal & Tank Facilities

The standard[23] has short sections on petroleum terminals, pipeline tankage facilities, refinery facilities, bulk plants, lube blending and packaging facilities, asphalt plants, and aviation service facilities; these sections mainly serve to define what is meant by each type of facility. The standard does not apply to installations covered by API Standard 2510 and API RP 12R1, as well as a list of specific types of facilities and equipment indicated in the standard. The standard lists governmental requirements and reviews that should be conducted to ensure that facilities meet applicable federal, state, or local requirements (Section 1.3); and has an extensive list of standards, codes, and specifications to use (Section 2.1).

Section 4 of the standard covers the site selection and spacing requirements for the design and construction of new terminal facilities. Section 5 addresses the methods of pollution prevention

[23] API Recommended Practice 2610, “Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities,” 2nd edition, American Petroleum Institute, May 2005.

and waste management practices in the design, maintenance, and operation of petroleum terminal and tank facilities. Section 6 covers the safe operation of terminals and tanks such as hazard identification, operating procedures, safe work practices, emergency response and control procedures, training, and other provisions. Section 7 covers fire prevention and protection, including tank overfill protection and inspection and maintenance programs. This section also covers considerations for special products. Section 8 covers aboveground petroleum storage tanks and appurtenances such as release prevention, leak detection, and air emissions. This section covers operations, inspections, maintenance, and repair for aboveground and underground tanks. Section 9 addresses dikes and berms. Section 10 covers pipe, valves, pumps, and piping systems. Section 11 covers loading, unloading, and product transfer facilities and activities including spill prevention and containment. Section 12 addresses the procedures and practices for achieving effective corrosion control. Section 13 addresses structures, utilities, and yards. Section 14 covers removal or decommissioning of facilities. All of these sections extensively reference the regulatory requirements and applicable industry standards.

7.5.10 ASME B31.3 – Process Piping

ASME B31.3 – Process Piping[24] is the generally accepted standard of minimum safety requirements for the oil, petrochemical, and chemical industries' process piping design and construction (for process piping already in service, other standards should be used, such as API 570, "Piping Inspection Code"). ASME B31.3 is written to be very broad in scope to cover a range of fluids, temperatures, and pressures. This broad coverage leaves a great deal of responsibility with the owner to use good engineering practices. The safety requirements for the design, examination, and testing of process piping vary in stringency based on three different categories of fluid service. Categories include "Category D" for a low hazard of fluid service, "Category M" for a high hazard of fluid service, with all remaining fluid services that are not in Category D or Category M being "Normal." It is the owner's responsibility to select the appropriate fluid service category, which determines the appropriate examination requirements.

The examination of process piping is to be completed by an examiner who demonstrates sufficient qualifications to perform the specified examination and who has training and experience records kept by his/her employer that can support these qualifications.[25] Different types of examinations performed include visual examinations, radiographic examinations, ultrasonic examinations, in-process examinations, liquid-penetrant examinations, magnetic-particle examinations, and hardness testing.

While these examinations are a part of the quality assurance procedures for new piping, leak testing should also be performed to test the overall system. According to ASME B31.3, leak testing is required for all new piping systems other than those classified as Category D, which can

[24] ASME B31.3, "Process Piping: The Complete Guide to ASME B31.3," Charles Becht IV, The American Society of Mechanical Engineers, 2nd edition, 2004.

[25] ASME B31.3 does not have specific requirements for an examiner, but SNT-TC-1A, "Recommended Practice for Nondestructive Testing Personnel Qualification and Certification," acts as an acceptable guide.

be examined for leaks after being put into service. Options for leak testing include hydrostatic tests, pneumatic tests, hydropneumatic tests, and alternative leak tests.

The standard requires that records detailing the examination personnel's qualifications and examination procedures be kept for at least five years. Test records or the inspector's certification that the piping has passed pressure testing are also required to be retained.

7.5.11 ASME Code for Pressure Piping B31.4-2002 – Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids

ASME Code for Pressure Piping B31.4-2002 – Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids[26] describes "engineering requirements deemed necessary for safe design and construction of pressure piping." These requirements are for the "design, materials, construction, assembly, inspection, and testing of piping transporting liquids" such as crude oil and liquid petroleum products between various facilities. Piping includes bolting, valves, pipes, gaskets, flanges, fittings, relief devices, pressure-containing parts of other piping components, hangers and supports, and any other equipment used to prevent the overstressing of pressure-containing pipes. This code's primary purpose is to "establish requirements for safe design, construction, inspection, testing, operation, and maintenance of liquid pipeline systems for protection of the general public and operating company personnel."

The personnel inspecting the piping are deemed qualified based on their level of training and experience and should be capable of performing various inspection services such as right-of-way and grading, welding, coating, pressure testing, and pipe surface inspections. Inspections of piping material and inspections during piping construction should include the visual evaluation of all piping components. Once construction is complete, these piping components and the entire system should be tested. Testing methods include hydrostatic testing of internal pressure piping; leak testing; and qualification tests based on a visual examination, bending properties, determination of wall thickness, determination of weld joint factor, weldability, determination of yield strength, and the minimum yield strength value.

Records detailing the design, construction, and testing of the piping should be kept in the files of the operating company for the life of the facility.

7.5.12 DOT 49 CFR 180.605 – Requirements for Periodic Testing, Inspection, and Repair of Portable Tanks and Other Portable Containers

Section 180.605[27] applies to any portable tank constructed to a DOT (e.g., 51, 56, 57, 60, or intermodal [IM]) or United Nations (UN) specification. According to these requirements, a portable

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[26] ASME Code for Pressure Piping, B31.4-2002, "Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids," The American Society of Mechanical Engineers, revision of ASME B31.4-1998, 2002.

[27] 49 CFR part 180.605, "Requirements for Periodic Testing, Inspection, and Repair of Portable Tanks," Department of Transportation, 64 FR 28052, May 24, 1999, as amended at 67 FR 15744, April 3, 2002.

tank must be inspected prior to further use if it shows evidence of a condition that might render it unsafe for use, has been damaged in an accident, has been out of service for more than a year, has been modified, or is in an unsafe operating condition. All tanks must receive an initial inspection prior to being placed into service and a periodic inspection or intermediate periodic inspection every two to five years. The timeframe between inspections depends upon the tank's specification.

Intermediate periodic inspections must include an internal and external examination of the tank and fittings, a leak test, and a test of the service equipment. The periodic inspection and test must include an external and internal inspection and a sustained air pressure leak test, unless exempted. For tanks that show evidence of damage or corrosion, an exceptional inspection and test is mandated. The extent of the inspection is dictated by the amount of damage or deterioration of the portable tank. Specification-60 tanks are further tested by filling them with water. Specification-IM or Specification-UN portable tanks must also be hydrostatically tested. Any tank that fails a test may not return to service until it is repaired and retested. An approval agency must witness the retest and certify the tank for return to service. The date of the last pressure test and visual inspection must be clearly marked on each IM or UN portable tank. A written record of the dates and results of the tests, including the name and address of the person performing the test, is to be retained by the tank owner or authorized agent.

Requirements for retest and inspection of Intermediate Bulk Containers (IBCs) are specified in 49 CFR 180.352. Requirements depend on the IBC shell material. For metal, rigid plastic, and composite IBCs, they include a leakproof test and external visual inspection every 2.5 years from the date of manufacture or repair. They also require an internal inspection every 5 years to ensure that the IBC is free from damage and capable of withstanding the applicable conditions. Flexible, fiberboard, or wooden IBCs must be visually inspected prior to first use and permitted reuse. Records of each test must be kept until the next test, or for at least 2.5 years from the date of the last test.

Design standards and specifications for initial qualification and reuse performance testing for portable tanks, drums, and IBCs are contained in 49 CFR part 178, Specifications for Packaging. See www.access.gpo.gov/cfr.

7.5.13 FAA Advisory Circular 150/5230-4A – Aircraft Fuel Storage, Handling, and Dispensing on Airports

FAA Advisory Circular 150/5230-4A – Aircraft Fuel Storage, Handling, and Dispensing on Airports[28] identifies standards and procedures for storage, handling, and dispensing of aviation fuel on airports. The Federal Aviation Administration (FAA) recommends the standards and procedures referenced in the Advisory Circular (AC) for all airports. The FAA accepts these standards as one means of complying with 14 CFR Part 139, Certification of Airports, as it pertains to fire safety in the

[28] FAA Advisory Circular 150/5230-4A, "Aircraft Fuel Storage, Handling, and Dispensing on Airports," Federal Aviation Administration, U.S. Department of Transportation, June 18, 2004.

safe storage, handling, and dispensing of fuels used in aircraft on airports but not in terms of quality control. Although airports that are not certificated under 14 CFR part 139 are not required to develop fuel safety standards, the FAA recommends that they do so.

This AC is not intended to replace airport procedures developed to meet requirements imposed because of the use of special equipment, nor to replace local regulations. For specific provisions, the other standards that are referenced in this AC are:

- For fuel storage, handling and dispensing, the National Fire Prevention Association's "Standard for Aircraft Fuel Servicing"
- For refueling and quality control procedures, the National Air Transportation Association's "Refueling and Quality Control Procedures for Airport Service and Support Operations." This provides information about fuel safety, types of aviation fuels, fueling vehicle safety, facility inspection procedures, fueling procedures, and methods for handling fuel spills. API also publishes documents pertaining to refueling and facility specifications.

The AC also requires fuel safety training for airports certificated under 14 CFR part 139. (See http://www.faa.gov/arp/publications/acs/5230-4A.pdf.)

7.5.14 FAA Advisory Circular 150/5210-20 – Ground Vehicle Operations on Airports

FAA Advisory Circular 150/5210-20 – Ground Vehicle Operations on Airports[29] provides "guidance to airport operators in developing training programs for safe ground vehicle operations and pedestrian control on the airside of an airport." Specifically, this advisory circular provides recommended operating procedures accompanied by two appendices containing samples of the training curriculum and training manual. With regard to the transportation and storage of oil, the vehicle operator requirements on the airside of an airport require that "no fuel truck shall be brought into, stored, or parked within 50 feet of a building. Fuel trucks must not be parked within 10 feet from other vehicles." (See http://www.faa.gov/arp/ACs/5210-20.pdf.)

7.5.15 Suggested Minimum Requirements for a PE-Developed Site-Specific Integrity Testing Program (Hybrid Testing Program)

Although EPA refers to certain industry standards for inspection and testing, it does not require that inspections and tests be performed according to a specific standard. The PE may use industry standards along with other good engineering principles to develop a customized inspection and testing program for the facility (a "hybrid inspection program"), considering the equipment type and condition, characteristics of products stored and handled at the facility, and other site-specific factors.

[29] FAA Advisory Circular 150/5210-20, "Ground Vehicle Operations on Airports," Federal Aviation Administration, U.S. Department of Transportation, June 21, 2002.

For example, a hybrid testing program may be developed in cases where no specific industry inspection standard exists to date, as is the case for tanks that contain certain products such as animal fats and vegetable oils, asphalt, or oils that have a specific gravity greater than 1.0. Although there are no industry standards specific to integrity testing of bulk storage containers containing vegetable oils at this time, some facilities with large animal fat and vegetable oil tanks follow API 653. Additionally, the U.S. Food and Drug Administration (FDA) sets requirements for food-grade oils, which would need to be followed in addition to EPA's integrity testing requirements.

The following provide recommendations of the minimum elements for a hybrid inspection program.

For shop-built tanks:

- Visually inspect exterior of tank;
- Evaluate external pitting;
- Evaluate "hoop stress and longitudinal stress risks" where corrosion of the shell is present;
- Evaluate condition and operation of appurtenances;
- Evaluate welds;
- Establish corrosion rates and determine the inspection interval and suitability for continued service;
- Evaluate tank bottom where it is in contact with ground and no cathodic protection is provided;
- Evaluate the structural integrity of the foundation;
- Evaluate anchor bolts in areas where required; and
- Evaluate the tank to determine it is hydraulically sound and not leaking.

For field-erected tanks:

- Evaluate foundation;
- Evaluate settlement;
- Determine safe product fill height;
- Determine shell corrosion rate and remaining life;
- Determine bottom corrosion rate and remaining life;
- Determine the inspection interval and suitability for continued service;
- Evaluate all welds;
- Evaluate coatings and linings;
- Evaluate repairs for risk of brittle fracture; and
- Evaluate the tank to determine it is hydraulically sound and not leaking.

EPA suggests that an appropriately trained and qualified inspector conduct a hybrid inspection and provide a detailed report of the findings. The qualifications of the tank inspector will depend on the condition and circumstances of the tank (e.g., size, field-erected or shop-built), and an inspector should only certify an inspection to the extent he/she is qualified to do so. A registered

PE may be able to perform the hybrid inspection, but could also have a certified inspector (e.g., STI or API) complete the inspection. Either way, the hybrid inspection should be reviewed and certified by a PE in accordance with §112.3(d). Note that industry inspection standards require the inspector's certification number on these reports.

EPA also recommends that the hybrid inspection program include frequent (e.g., monthly), visual examinations of the tank by the tank owner. Such an examination may include the following elements:

- Foundation: Structurally sound and there is adequate drainage away from tank (yes/no)
- Tank bottom: Shows visible signs of leakage (yes/no)
- Tank shell: Shows distortions, visible leaks, seepage at seam, external corrosion (yes/no)
- Condition of coatings and insulation (satisfactory/unsatisfactory)
- Roof: Hatches securely closed, roof distortions, visible signs of holes, external corrosion, adequate drainage (yes/no)
- Condition of coatings and insulation (satisfactory/unsatisfactory)
- Appurtenances: Thief hatch seals properly; thief hatch operational; vent valve operational; drain and sample valves do not leak; piping properly supported off tank; stairways, ladders, and walkways sound (yes/no)
- Miscellaneous: Cathodic protection and automatic tank gauging is operational, tank area is clean of trash and vegetation (yes/no)

The inspector may review checklists used by facility personnel to conduct the frequent (e.g., monthly) inspections.

Table 7-5 summarizes the facility components covered by select industry standards and recommended practices for tanks, valves, pipes, and appurtenances. Additional standards and/or manufacturers' standards may also apply. The recommended standards for facility personnel to use for inspecting and testing at a particular facility would be specified in the SPCC Plan by the PE preparing the Plan. All actions (e.g., visual inspection or testing) performed by facility personnel must be appropriately documented and maintained in permanent facility records as per §112.7(e).

Table 7-5. Checklist summary of industry standards for inspection, evaluation, and testing.

Facility Component(s) Covered in Standard or Recommended Practice	**Potentially Relevant Standards and Recommended Practices**								
	API 653	STI SP001	API 570	API RP* 575	API RP* 574	API 12R1	API 1110	ASME B31.3	ASME B31.4
New equipment						✔	✔	✔	✔
Equipment that has been in service	✔	✔	✔	✔	✔	✔	✔		✔
Shop-built AST	✔	✔		✔		✔			
Field-erected AST	✔			✔		✔			
Plastic tanks		✔							
Container supports or foundation	✔	✔		✔		✔			
Buried metallic storage tank									
Tank car or tank truck									
Diked area		✔							
Aboveground valves, piping, and appurtenances		✔	✔	✔	✔		✔	✔	✔
Underground piping			✔		✔				
Offshore valves, piping, and appurtenances									✔
Steam return and exhaust lines									
Field drainage systems, oil traps, sumps, and/or skimmers									

* Recommended practice.

Table 7-6, tank inspection checklist, provides an example of the type of information that may be included on an owner/operator-performed inspection checklist.

Table 7-6. Tank inspection checklist (from Appendix F of 40 CFR part 112).

I.	**Check tanks for leaks, specifically looking for:**	
	A.	Drip marks;
	B.	Discoloration of tanks;
	C.	Puddles containing spilled or leaked material;
	D.	Corrosion;
	E.	Cracks; and
	F.	Localized dead vegetation.
II.	**Check foundation for:**	
	A.	Cracks;
	B.	Discoloration;
	C.	Puddles containing spilled or leaked material;
	D.	Settling;
	E.	Gaps between tank and foundation; and
	F.	Damage caused by vegetation roots.
III.	**Check piping for:**	
	A.	Droplets of stored material;
	B.	Discoloration;
	C.	Corrosion;
	D.	Bowing of pipe between supports;
	E.	Evidence of stored material seepage from valves or seals; and
	F.	Localized dead vegetation.

APPENDIX A: TEXT OF CWA 311(j)(1)(c)

CWA §§ 311(j)(1)(c)

Summary:
The President is authorized to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil from vessels and facilities.

Rule Text:
(j) National Response System

(1) In general

Consistent with the National Contingency Plan required by subsection (c)(2) of this section, as soon as practicable after October 18, 1972, and from time to time thereafter, the President shall issue regulations consistent with maritime safety and with marine and navigation laws

(c)

establishing procedures, methods, and equipment and other requirements for equipment to prevent discharges of oil and hazardous substances from vessels and from onshore facilities and off shore facilities, and to contain such discharges…

APPENDIX B: SELECT REGULATIONS

40 CFR part 109
40 CFR part 110
40 CFR part 112

Law Judge, on his own motion, or at the request of any party, shall have the power to hold prehearing conferences, to issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. The Regional Administrator, and any party submitting a request pursuant to § 108.3 or § 108.4, or counsel or other representative of such party or the Regional Administrator, may appear and offer evidence at the hearing.

§ 108.6 Recommendations.

At the conclusion of any hearing under this part, the Administrative Law Judge shall, based on the record, issue tentative findings of fact and recommendations concerning the alleged discrimination, and shall submit such tentative findings and recommendations to the Administrator. The Administrator shall adopt or modify the findings and recommendations of the Administrative Law Judge, and shall make copies of such findings and recommendations available to the complaining employee, the employer, and the public.

§ 108.7 Hearing before Administrator.

At his option, the Administrator may exercise any powers of an Administrative Law Judge with respect to hearings under this part.

PART 109—CRITERIA FOR STATE, LOCAL AND REGIONAL OIL REMOVAL CONTINGENCY PLANS

Sec.
109.1 Applicability.
109.2 Definitions.
109.3 Purpose and scope.
109.4 Relationship to Federal response actions.
109.5 Development and implementation criteria for State, local and regional oil removal contingency plans.
109.6 Coordination.

AUTHORITY: Sec. 11(j)(1)(B), 84 Stat. 96, 33 U.S.C. 1161(j)(1)(B).

SOURCE: 36 FR 22485, Nov. 25, 1971, unless otherwise noted.

§ 109.1 Applicability.

The criteria in this part are provided to assist State, local and regional agencies in the development of oil removal contingency plans for the inland navigable waters of the United States and all areas other than the high seas, coastal and contiguous zone waters, coastal and Great Lakes ports and harbors and such other areas as may be agreed upon between the Environmental Protection Agency and the Department of Transportation in accordance with section 11(j)(1)(B) of the Federal Act, Executive Order No. 11548 dated July 20, 1970 (35 FR 11677) and § 306.2 of the National Oil and Hazardous Materials Pollution Contingency Plan (35 FR 8511).

§ 109.2 Definitions.

As used in these guidelines, the following terms shall have the meaning indicated below:

(a) *Oil* means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

(b) *Discharge* includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

(c) *Remove* or *removal* refers to the removal of the oil from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

(d) *Major disaster* means any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, earthquake, drought, fire, or other catastrophe in any part of the United States which, in the determination of the President, is or threatens to become of sufficient severity and magnitude to warrant disaster assistance by the Federal Government to supplement the efforts and available resources of States and local governments and relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

(e) *United States* means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.

(f) *Federal Act* means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1151 *et seq.*

§ 109.3 Purpose and scope.

The guidelines in this part establish minimum criteria for the development and implementation of State, local, and regional contingency plans by State and local governments in consultation with private interests to insure timely, efficient, coordinated and effective action to minimize damage resulting from oil discharges. Such plans will be directed toward the protection of the public health or welfare of the United States, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches. The development and implementation of such plans shall be consistent with the National Oil and Hazardous Materials Pollution Contingency Plan. State, local and regional oil removal contingency plans shall provide for the coordination of the total response to an oil discharge so that contingency organizations established thereunder can function independently, in conjunction with each other, or in conjunction with the National and Regional Response Teams established by the National Oil and Hazardous Materials Pollution Contingency Plan.

§ 109.4 Relationship to Federal response actions.

The National Oil and Hazardous Materials Pollution Contingency Plan provides that the Federal on-scene commander shall investigate all reported spills. If such investigation shows that appropriate action is being taken by either the discharger or non-Federal entities, the Federal on-scene commander shall monitor and provide advice or assistance, as required. If appropriate containment or cleanup action is not being taken by the discharger or non-Federal entities, the Federal on-scene commander will take control of the response activity in accordance with section 11(c)(1) of the Federal Act.

§ 109.5 Development and implementation criteria for State, local and regional oil removal contingency plans.

Criteria for the development and implementation of State, local and regional oil removal contingency plans are:

(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved or could be involved in planning or directing oil removal operations, with particular care to clearly define the authorities, responsibilities and duties of State and local governmental agencies to avoid unnecessary duplication of contingency planning activities and to minimize the potential for conflict and confusion that could be generated in an emergency situation as a result of such duplications.

(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:

(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.

(2) A current list of names, telephone numbers and addresses of the responsible persons and alternates on call to receive notification of an oil discharge as well as the names, telephone numbers and addresses of the organizations and agencies to be notified when an oil discharge is discovered.

(3) Provisions for access to a reliable communications system for timely notification of an oil discharge and incorporation in the communications system of the capability for interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans.

(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.

(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:

(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.

(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.

(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.

(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:

(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.

(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.

(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.

(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.

(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.

(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.

§ 109.6 Coordination.

For the purposes of coordination, the contingency plans of State and local governments should be developed and implemented in consultation with private interests. A copy of any oil removal contingency plan developed by State and local governments should be forwarded to the Council on Environmental Quality upon request to facilitate the coordination of these contingency plans with the National Oil and Hazardous Materials Pollution Contingency Plan.

PART 110—DISCHARGE OF OIL

Sec.
110.1 Definitions.
110.2 Applicability.
110.3 Discharge of oil in such quantities as ''may be harmful'' pursuant to section 311(b)(4) of the Act.
110.4 Dispersants.
110.5 Discharges of oil not determined ''as may be harmful'' pursuant to section 311(b)(3) of the Act.
110.6 Notice.

AUTHORITY: 33 U.S.C. 1321(b)(3) and (b)(4) and 1361(a); E.O. 11735, 38 FR 21243, 3 CFR Parts 1971–1975 Comp., p. 793.

SOURCE: 52 FR 10719, Apr. 2, 1987, unless otherwise noted.

§ 110.1 Definitions.

Terms not defined in this section have the same meaning given by the Section 311 of the Act. As used in this part, the following terms shall have the meaning indicated below:

Act means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 *et seq.*, also known as the Clean Water Act;

Administrator means the Administrator of the Environmental Protection Agency (EPA);

Applicable water quality standards means State water quality standards adopted by the State pursuant to section 303 of the Act or promulgated by EPA pursuant to that section;

MARPOL 73/78 means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, Annex I, which regulates pollution from oil and which entered into force on October 2, 1983;

Navigable waters means the waters of the United States, including the territorial seas. The term includes:

(a) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

(b) Interstate waters, including interstate wetlands;

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) That are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;

(3) That are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as navigable waters under this section;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this section, including adjacent wetlands; and

(f) Wetlands adjacent to waters identified in paragraphs (a) through (e) of this section: Provided, That waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States;

Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

NPDES means National Pollutant Discharge Elimination System;

Sheen means an iridescent appearance on the surface of water;

Sludge means an aggregate of oil or oil and other matter of any kind in any form other than dredged spoil having a combined specific gravity equivalent to or greater than water;

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands;

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

[52 FR 10719, Apr. 2, 1987, as amended at 58 FR 45039, Aug. 25, 1993; 61 FR 7421, Feb. 28, 1996]

§ 110.2 Applicability.

The regulations of this part apply to the discharge of oil prohibited by section 311(b)(3) of the Act.

[61 FR 7421, Feb. 28, 1996]

§ 110.3 Discharge of oil in such quantities as "may be harmful" pursuant to section 311(b)(4) of the Act.

For purposes of section 311(b)(4) of the Act, discharges of oil in such quantities that the Administrator has determined may be harmful to the public health or welfare or the environment of the United States include discharges of oil that:

(a) Violate applicable water quality standards; or

(b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

[61 FR 7421, Feb. 28, 1996]

§110.4 Dispersants.

Addition of dispersants or emulsifiers to oil to be discharged that would circumvent the provisions of this part is prohibited.

[52 FR 10719, Apr. 2, 1987. Redesignated at 61 FR 7421, Feb. 28, 1996]

§ 110.5 Discharges of oil not determined "as may be harmful" pursuant to Section 311(b)(3) of the Act.

Notwithstanding any other provisions of this part, the Administrator has not determined the following discharges of oil "as may be harmful" for purposes of section 311(b) of the Act:

(a) Discharges of oil from a properly functioning vessel engine (including an engine on a public vessel) and any discharges of such oil accumulated in the bilges of a vessel discharged in compliance with MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A;

(b) Other discharges of oil permitted under MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A; and

(c) Any discharge of oil explicitly permitted by the Administrator in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

[61 FR 7421, Feb. 28, 1996]

§ 110.6 Notice.

Any person in charge of a vessel or of an onshore or offshore facility shall, as soon as he or she has knowledge of any discharge of oil from such vessel or facility in violation of section 311(b)(3) of the Act, immediately notify the National Response Center (NRC) (800–424–8802; in the Washington, DC metropolitan area, 202–426–2675). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR part 153, subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300, subpart E.

(Approved by the Office of Management and Budget under control number 2050–0046)

[52 FR 10719, Apr. 2, 1987. Redesignated and amended at 61 FR 7421, Feb. 28, 1996; 61 FR 14032, Mar. 29, 1996]

PART 112—OIL POLLUTION PREVENTION

Sec.

Subpart A—Applicability, Definitions, and General Requirements For All Facilities and All Types of Oils

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112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).
112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.
112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

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engine on a public vessel) and any discharges of such oil accumulated in the bilges of a vessel discharged in compliance with MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A;

(b) Other discharges of oil permitted under MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A; and

(c) Any discharge of oil explicitly permitted by the Administrator in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

[61 FR 7421, Feb. 28, 1996]

§ 110.6 Notice.

Any person in charge of a vessel or of an onshore or offshore facility shall, as soon as he or she has knowledge of any discharge of oil from such vessel or facility in violation of section 311(b)(3) of the Act, immediately notify the National Response Center (NRC) (800–424–8802; in the Washington, DC metropolitan area, 202–426–2675). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR part 153, subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300, subpart E.

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112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.
112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

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112.20 Facility response plans.
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APPENDIX B TO PART 112—MEMORANDUM OF UNDERSTANDING AMONG THE SECRETARY OF THE INTERIOR, SECRETARY OF TRANSPORTATION, AND ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY
APPENDIX C TO PART 112—SUBSTANTIAL HARM CRITERIA
APPENDIX D TO PART 112—DETERMINATION OF A WORST CASE DISCHARGE PLANNING VOLUME
APPENDIX E TO PART 112—DETERMINATION AND EVALUATION OF REQUIRED RESPONSE RESOURCES FOR FACILITY RESPONSE PLANS
APPENDIX F TO PART 112—FACILITY-SPECIFIC RESPONSE PLAN

AUTHORITY: 33 U.S.C. 1251 *et seq.*; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp., p. 351.

SOURCE: 38 FR 34165, Dec. 11, 1973, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 112 appear at 65 FR 40798, June 30, 2000.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

SOURCE: 67 FR 47140, July 17, 2002, unless otherwise noted.

§ 112.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in § 112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise ''permanently closed'' as defined in § 112.2;

(4) Any ''bunkered tank'' or ''partially buried tank'' as defined in § 112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is

not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter. The completely buried storage capacity of a facility also excludes the capacity of a container that is ''permanently closed,'' as defined in § 112.2.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. For purposes of this exemption, only containers of oil with a capacity of 55 gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is ''permanently closed,'' as defined in § 112.2.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in § 112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in Appendix E to this part (as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in § 112.20 or in a specific plan approved by the Regional Administrator.

Navigable waters means the waters of the United States, including the territorial seas.

(1) The term includes:

(i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:

(A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or

(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,

(C) That are or could be used for industrial purposes by industries in interstate commerce;

(iv) All impoundments of waters otherwise defined as waters of the United States under this section;

(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;

(vi) The territorial sea; and

(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.

(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United

States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

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

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

(1) All liquid and sludge has been removed from each container and connecting line; and

(2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil, or associated storage or measurement, and located in a single geographical oil or gas field operated by a single operator.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (Appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D to this part.

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator of an onshore or offshore facility subject to this section must prepare a Spill Prevention, Control, and Countermeasure Plan (hereafter ''SPCC Plan'' or ''Plan),'' in writing, and in accordance with § 112.7, and any other applicable section of this part.

(a) If your onshore or offshore facility was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, on or before February 17, 2006, and must implement the amended Plan as soon as possible, but not later than August 18, 2006. If your onshore or offshore facility becomes operational after August 16, 2002, through August 18, 2006, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare a Plan on or before August 18, 2006, and fully implement it as soon as possible, but not later than August 18, 2006.

(b) If you are the owner or operator of an onshore or offshore facility that becomes operational after August 18, 2006, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations.

(c) If you are the owner or operator of an onshore or offshore mobile facility, such as an onshore drilling or workover rig, barge mounted offshore drilling or workover rig, or portable fueling facility, you must prepare, implement, and maintain a facility Plan as required by this section. You must maintain your Plan, but must amend and implement it, if necessary to ensure compliance with this part, on or before August 18, 2006. If your onshore or offshore mobile facility becomes operational after August 18, 2006, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations. This provision does not require that you prepare a new Plan each time you move the facility to a new site. The Plan may be a general Plan. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the facility is in a fixed (non-transportation) operating mode.

(d) A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part ;

(ii) That he or his agent has visited and examined the facility;

(iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;

(iv) That procedures for required inspections and testing have been established; and

(v) That the Plan is adequate for the facility.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;

(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and

(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

[67 FR 47140, July 17, 2002, as amended at 68 FR 1351, Jan. 9, 2003; 68 FR 18894, Apr. 17, 2003; 69 FR 48798, Aug. 11, 2004]

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

(4) Maximum storage or handling capacity of the facility and normal daily throughput;

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;

(7) The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under § 112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known, in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, ''I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result.''

(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d).

§ 112.6 [Reserved]

§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:

(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.

(2) Comply with all applicable requirements listed in this part. Your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2),112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11),112.13(c)(2), and 112.14(c), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).

(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under § 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes. You must also address in your Plan:

(i) The type of oil in each container and its storage capacity;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, *etc.*);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in § 112.1(b).

(4) Unless you have submitted a response plan under § 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in § 112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

(5) Unless you have submitted a response plan under § 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in § 112.1(b). The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;

(ii) Curbing;

(iii) Culverting, gutters, or other drainage systems;

(iv) Weirs, booms, or other barriers;

(v) Spill diversion ponds;

(vi) Retention ponds; or

(vii) Sorbent materials.

(2) For offshore facilities:

(i) Curbing or drip pans; or

(ii) Sumps and collection systems.

(d) If you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c) to prevent a discharge as described in § 112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under § 112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

(e) *Inspections, tests, and records.* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(f) *Personnel, training, and discharge prevention procedures.* (1) At a minimum, train your oil-handling personnel 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.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in § 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

(g) *Security (excluding oil production facilities).* (1) Fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended.

(2) Ensure that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status.

(3) Lock the starter control on each oil pump in the ''off'' position and locate it at a site accessible only to authorized personnel when the pump is in a non-operating or non-standby status.

(4) Securely cap or blank-flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time. This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure.

(5) Provide facility lighting commensurate with the type and location of the facility that will assist in the:

(i) Discovery of discharges occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.); and

(ii) Prevention of discharges occurring through acts of vandalism.

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).* (1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

SOURCE: 67 FR 47146, July 17, 2002, unless otherwise noted.

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two ''lift'' pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). You must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

§ 112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.* (1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overfill if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly

following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.

SOURCE: 67 FR 57149, July 17, 2002, unless otherwise noted.

§ 112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate

catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two ''lift'' pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). You must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

§ 112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.* (1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.12(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overfill if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility*. (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

Subpart D—Response Requirements

§ 112.20 Facility response plans.

(a) The owner or operator of any non-transportation-related onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines shall prepare and submit a facility response plan to the Regional Administrator, according to the following provisions:

(1) For the owner or operator of a facility in operation on or before February 18, 1993 who is required to prepare and submit a response plan under 33 U.S.C. 1321(j)(5), the Oil Pollution Act of 1990 (Pub. L. 101–380, 33 U.S.C. 2701 *et seq.*) requires the submission of a response plan that satisfies the requirements of 33 U.S.C. 1321(j)(5) no later than February 18, 1993.

(i) The owner or operator of an existing facility that was in operation on or before February 18, 1993 who submitted a response plan by February 18, 1993 shall revise the response plan to satisfy the requirements of this section and resubmit the response plan or updated portions of the response plan to the Regional Administrator by February 18, 1995.

(ii) The owner or operator of an existing facility in operation on or before February 18, 1993 who failed to submit a response plan by February 18, 1993 shall prepare and submit a response plan that satisfies the requirements of this section to the Regional Administrator before August 30, 1994.

(2) The owner or operator of a facility in operation on or after August 30, 1994 that satisfies the criteria in paragraph (f)(1) of this section or that is notified by the Regional Administrator pursuant to paragraph (b) of this section shall prepare and submit a facility response plan that satisfies the requirements of this section to the Regional Administrator.

(i) For a facility that commenced operations after February 18, 1993 but prior to August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan or updated portions of the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator prior to August 30, 1994.

(ii) For a newly constructed facility that commences operation after August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator prior to the start of operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iii) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of a planned change in design, construction, operation, or maintenance that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator before the portion of the facility undergoing change commences operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iv) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of an unplanned event or change in facility characteristics that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator within six months of the unplanned event or change.

(3) In the event the owner or operator of a facility that is required to prepare and submit a response plan uses an alternative formula that is comparable to one contained in Appendix C to this part to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula.

(4) *Preparation and submission of response plans—Animal fat and vegetable oil facilities.* The owner or operator of any non-transportation-related facility that handles, stores, or transports animal fats and vegetable oils must prepare and submit a facility response plan as follows:

(i) *Facilities with approved plans.* The owner or operator of a facility with a facility response plan that has been approved under paragraph (c) of this section by July 31, 2000 need not prepare or submit a revised plan except as otherwise required by paragraphs (b), (c), or (d) of this section.

(ii) *Facilities with plans that have been submitted to the Regional Administrator.* Except for facilities with approved plans as provided in paragraph (a)(4)(i) of this section, the owner or operator of a facility that has submitted a response plan to the Regional Administrator prior to July 31, 2000 must review the plan to determine if it meets or exceeds the applicable provisions of this part. An owner or operator need not prepare or submit a new plan if the existing plan meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must prepare and submit a new plan by September 28, 2000.

(iii) *Newly regulated facilities.* The owner or operator of a newly constructed facility that commences operation after July 31, 2000 must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(ii) of this section. The plan must meet or exceed the applicable provisions of this part. The owner or operator of an existing facility that must prepare and submit a plan after July 31, 2000 as a result of a planned or unplanned change in facility characteristics that causes the facility to become regulated under paragraph (f)(1) of this section, must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(iii) or (iv) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(iv) *Facilities amending existing plans.* The owner or operator of a facility submitting an amended plan in accordance with paragraph (d) of this section after July 31, 2000, including plans that had been previously approved, must also review the plan to determine if it meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must revise and resubmit revised portions of an amended plan to the Regional Administrator in accordance with paragraph (d) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(b)(1) The Regional Administrator may at any time require the owner or operator of any non-transportation-related onshore facility to prepare and submit a facility response plan under this section after considering the factors in paragraph (f)(2) of this section. If such a determination is made, the Regional Administrator shall notify the facility owner or operator in writing and shall provide a basis for the determination. If the Regional Administrator notifies the owner or operator in writing of the requirement to prepare and submit a response plan under this section, the owner or operator of the facility shall submit the response plan to the Regional Administrator within six months of receipt of such written notification.

(2) The Regional Administrator shall review plans submitted by such facilities to determine whether the facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(c) The Regional Administrator shall determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, based on the factors in paragraph (f)(3) of this section. If such a determination is made, the Regional Administrator shall notify the owner or operator of the facility in writing and:

(1) Promptly review the facility response plan;

(2) Require amendments to any response plan that does not meet the requirements of this section;

(3) Approve any response plan that meets the requirements of this section; and

(4) Review each response plan periodically thereafter on a schedule established by the Regional Administrator provided that the period between plan reviews does not exceed five years.

(d)(1) The owner or operator of a facility for which a response plan is required under this part shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst case discharge, including:

(i) A change in the facility's configuration that materially alters the information included in the response plan;

(ii) A change in the type of oil handled, stored, or transferred that materially alters the required response resources;

(iii) A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of this section;

(iv) A material change in the facility's spill prevention and response equipment or emergency response procedures; and

(v) Any other changes that materially affect the implementation of the response plan.

(2) Except as provided in paragraph (d)(1) of this section, amendments to personnel and telephone number lists included in the response plan and a change in the oil spill removal organization(s) that does not result in a material change in support capabilities do not require approval by the Regional Administrator. Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur.

(3) The owner or operator of a facility that submits changes to a response plan as provided in paragraph (d)(1) or (d)(2) of this section shall provide the EPA-issued facility identification number (where one has been assigned) with the changes.

(4) The Regional Administrator shall review for approval changes to a response plan submitted pursuant to paragraph (d)(1) of this section for a facility determined pursuant to paragraph (f)(3) of this section to have the potential to cause significant and substantial harm to the environment.

(e) If the owner or operator of a facility determines pursuant to paragraph (a)(2) of this section that the facility could not, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the owner or operator shall complete and maintain at the facility the certification form contained in Appendix C to this part and, in the event an alternative formula that is comparable to one contained in Appendix C to this part is used to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

(f)(1) A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (a)(2) of this section, if it meets any of the following criteria applied in accordance with the flowchart contained in Attachment C-I to Appendix C to this part:

(i) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or

(ii) The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:

(A) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation;

(B) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III of the ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan prepared pursuant to section 311(j)(4) of the Clean Water Act;

(C) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake; or

(D) The facility has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years.

(2)(i) To determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (b) of this section, the Regional Administrator shall consider the following:

(A) Type of transfer operation;

(B) Oil storage capacity;

(C) Lack of secondary containment;

(D) Proximity to fish and wildlife and sensitive environments and other areas determined by the Regional Administrator to possess ecological value;

(E) Proximity to drinking water intakes;

(F) Spill history; and

(G) Other site-specific characteristics and environmental factors that the Regional Administrator determines to be relevant to protecting the environment from harm by discharges of oil into or on navigable waters or adjoining shorelines.

(ii) Any person, including a member of the public or any representative from a Federal, State, or local agency who believes that a facility subject to this section could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines may petition the Regional Administrator to determine whether the facility meets the criteria in paragraph (f)(2)(i) of this section. Such petition shall include a discussion of how the factors in paragraph (f)(2)(i) of this section apply to the facility in question. The RA shall consider such petitions and respond in an appropriate amount of time.

(3) To determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the Regional Administrator may consider the factors in paragraph (f)(2) of this section as well as the following:

(i) Frequency of past discharges;

(ii) Proximity to navigable waters;

(iii) Age of oil storage tanks; and

(iv) Other facility-specific and Region-specific information, including local impacts on public health.

(g)(1) All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act. The facility response plan should be coordinated with the local emergency response plan developed by the local emergency planning committee under section 303 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.). Upon request, the owner or operator should provide a copy of the facility response plan to the local emergency planning committee or State emergency response commission.

(2) The owner or operator shall review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan and applicable Area Contingency Plan annually and, if necessary, revise the facility response plan to ensure consistency with these plans.

(3) The owner or operator shall review and update the facility response

plan periodically to reflect changes at the facility.

(h) A response plan shall follow the format of the model facility-specific response plan included in Appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in Appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in Appendix F to this part:

(1) *Emergency response action plan.* The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:

(i) The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;

(ii) The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;

(iii) A description of information to pass to response personnel in the event of a reportable discharge;

(iv) A description of the facility's response equipment and its location;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;

(vi) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(vii) A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and

(viii) A diagram of the facility.

(2) *Facility information.* The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.

(3) *Information about emergency response.* The response plan shall include:

(i) The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow Appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of Appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);

(ii) Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;

(iii) The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;

(iv) A description of information to pass to response personnel in the event of a reportable discharge;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;

(vi) A description of the facility's response equipment, the location of the equipment, and equipment testing;

(vii) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(viii) A diagram of evacuation routes; and

(ix) A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:

(A) Activate internal alarms and hazard communication systems to notify all facility personnel;

(B) Notify all response personnel, as needed;

(C) Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

(D) Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;

(E) Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;

(F) Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);

(G) Assess and implement prompt removal actions to contain and remove the substance released;

(H) Coordinate rescue and response actions as previously arranged with all response personnel;

(I) Use authority to immediately access company funding to initiate cleanup activities; and

(J) Direct cleanup activities until properly relieved of this responsibility.

(4) *Hazard evaluation.* The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(5) *Response planning levels.* The response plan shall include discussion of specific planning scenarios for:

(i) A worst case discharge, as calculated using the appropriate worksheet in Appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;

(ii) A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and

(iii) A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.

(6) *Discharge detection systems.* The response plan shall describe the procedures and equipment used to detect discharges.

(7) *Plan implementation.* The response plan shall describe:

(i) Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;

(ii) A description of the equipment to be used for each scenario;

(iii) Plans to dispose of contaminated cleanup materials; and

(iv) Measures to provide adequate containment and drainage of discharged oil.

(8) *Self-inspection, drills/exercises, and response training.* The response plan shall include:

(i) A checklist and record of inspections for tanks, secondary containment, and response equipment;

(ii) A description of the drill/exercise program to be carried out under the response plan as described in § 112.21;

(iii) A description of the training program to be carried out under the response plan as described in § 112.21; and

(iv) Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.

(9) *Diagrams.* The response plan shall include site plan and drainage plan diagrams.

(10) *Security systems.* The response plan shall include a description of facility security systems.

(11) *Response plan cover sheet.* The response plan shall include a completed response plan cover sheet provided in Section 2.0 of Appendix F to this part.

(i)(1) In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(2) In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(3) After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.

[59 FR 34098, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 66 FR 34560, June 29, 2001; 67 FR 47151, July 17, 2002]

§ 112.21 Facility response training and drills/exercises.

(a) The owner or operator of any facility required to prepare a facility response plan under § 112.20 shall develop and implement a facility response training program and a drill/exercise program that satisfy the requirements of this section. The owner or operator shall describe the programs in the response plan as provided in § 112.20(h)(8).

(b) The facility owner or operator shall develop a facility response training program to train those personnel involved in oil spill response activities. It is recommended that the training program be based on the USCG's Training Elements for Oil Spill Response, as applicable to facility operations. An alternative program can also be acceptable subject to approval by the Regional Administrator.

(1) The owner or operator shall be responsible for the proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations.

(2) Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel.

(3) Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup.

(c) The facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. A program that follows the National Preparedness for Response Exercise Program (PREP) (see Appendix E to this part, section 13, for availability) will be deemed satisfactory for purposes of this section. An alternative program can also be acceptable subject to approval by the Regional Administrator.

[59 FR 34101, July 1, 1994, as amended at 65 FR 40798, June 30, 2000]

APPENDIX A TO PART 112—MEMORANDUM OF UNDERSTANDING BETWEEN THE SECRETARY OF TRANSPORTATION AND THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

SECTION II—DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) *Non-transportation-related onshore and offshore facilities* means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment, piping from wellheads to oil separators, oil separators, and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural or public facilities which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) *Transportation-related onshore and offshore facilities* means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a non-transportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

APPENDIX B TO PART 112—MEMORANDUM OF UNDERSTANDING AMONG THE SECRETARY OF THE INTERIOR, SECRETARY OF TRANSPORTATION, AND ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

PURPOSE

This Memorandum of Understanding (MOU) establishes the jurisdictional responsibilities for offshore facilities, including pipelines, pursuant to section 311 (j)(1)(c), (j)(5), and (j)(6)(A) of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (Public Law 101–380). The Secretary of the Department of the Interior (DOI), Secretary of the Department of Transportation (DOT), and Administrator of the Environmental Protection Agency (EPA) agree to the division of responsibilities set forth below for spill prevention and control, response planning, and equipment inspection activities pursuant to those provisions.

BACKGROUND

Executive Order (E.O.) 12777 (56 FR 54757) delegates to DOI, DOT, and EPA various responsibilities identified in section 311(j) of the CWA. Sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 assigned to DOI spill prevention and control, contingency planning, and equipment inspection activities associated with offshore facilities. Section 311(a)(11) defines the term ''offshore facility'' to include facilities of any kind located in, on, or under navigable waters of the United States. By using this definition, the traditional DOI role of regulating facilities on the Outer Continental Shelf is expanded by E.O. 12777 to include inland lakes, rivers, streams, and any other inland waters.

RESPONSIBILITIES

Pursuant to section 2(i) of E.O. 12777, DOI redelegates, and EPA and DOT agree to assume, the functions vested in DOI by sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 as set forth below. For purposes of this MOU, the term ''coast line'' shall be defined as in the Submerged Lands Act (43 U.S.C. 1301(c)) to mean ''the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters.''

1. To EPA, DOI redelegates responsibility for non-transportation-related offshore facilities located landward of the coast line.

2. To DOT, DOI redelegates responsibility for transportation-related facilities, including pipelines, located landward of the coast line. The DOT retains jurisdiction for deepwater ports and their associated seaward pipelines, as delegated by E.O. 12777.

3. The DOI retains jurisdiction over facilities, including pipelines, located seaward of the coast line, except for deepwater ports and associated seaward pipelines delegated by E.O. 12777 to DOT.

EFFECTIVE DATE

This MOU is effective on the date of the final execution by the indicated signatories.

LIMITATIONS

1. The DOI, DOT, and EPA may agree in writing to exceptions to this MOU on a facility-specific basis. Affected parties will receive notification of the exceptions.

2. Nothing in this MOU is intended to replace, supersede, or modify any existing agreements between or among DOI, DOT, or EPA.

MODIFICATION AND TERMINATION

Any party to this agreement may propose modifications by submitting them in writing to the heads of the other agency/department. No modification may be adopted except with the consent of all parties. All parties shall indicate their consent to or disagreement with any proposed modification within 60 days of receipt. Upon the request of any party, representatives of all parties shall meet for the purpose of considering exceptions or modifications to this agreement. This MOU may be terminated only with the mutual consent of all parties.

Dated: November 8, 1993.
Bruce Babbitt,
Secretary of the Interior.
Dated: December 14, 1993.
Federico Peña,
Secretary of Transportation.
Dated: February 3, 1994.
Carol M. Browner,
Administrator, Environmental Protection Agency.

[59 FR 34102, July 1, 1994]

APPENDIX C TO PART 112—SUBSTANTIAL HARM CRITERIA

1.0 INTRODUCTION

The flowchart provided in Attachment C–I to this appendix shows the decision tree with the criteria to identify whether a facility ‘‘could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines.’’ In addition, the Regional Administrator has the discretion to identify facilities that must prepare and submit facility-specific response plans to EPA.

1.1 Definitions

1.1.1 *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

1.1.2 Higher Volume Port Areas include

(1) Boston, MA;

(2) New York, NY;

(3) Delaware Bay and River to Philadelphia, PA;

(4) St. Croix, VI;

(5) Pascagoula, MS;

(6) Mississippi River from Southwest Pass, LA to Baton Rouge, LA;

(7) Louisiana Offshore Oil Port (LOOP), LA;

(8) Lake Charles, LA;

(9) Sabine-Neches River, TX;

(10) Galveston Bay and Houston Ship Channel, TX;

(11) Corpus Christi, TX;

(12) Los Angeles/Long Beach Harbor, CA;

(13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA;

(14) Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound, WA;

(15) Prince William Sound, AK; and

(16) Others as specified by the Regional Administrator for any EPA Region.

1.1.3 *Inland Area* means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80.740—80.850). The inland area does not include the Great Lakes.

1.1.4 *Rivers and Canals* means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less.

2.0 DESCRIPTION OF SCREENING CRITERIA FOR THE SUBSTANTIAL HARM FLOWCHART

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility-specific response plan to EPA in accordance with Appendix F to this part. A description of the screening criteria for the substantial harm flowchart is provided below:

2.1 *Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil.* A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water. These facilities are located adjacent to navigable water.

2.2 *Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems.

2.3 *Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112.2) to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil discharge could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.4 *Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c). The distance at which an oil discharge from an SPCC-regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.5 *Facilities That Have Experienced Reportable Oil Discharges in an Amount Greater Than or Equal to 10,000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility's oil spill history within the past 5 years shall be considered in the evaluation for substantial harm. Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the past 5 years must submit a response plan to EPA.

3.0 CERTIFICATION FOR FACILITIES THAT DO NOT POSE SUBSTANTIAL HARM

If the facility does not meet the substantial harm criteria listed in Attachment C–I to this appendix, the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C–II to this appendix. In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

4.0 REFERENCES

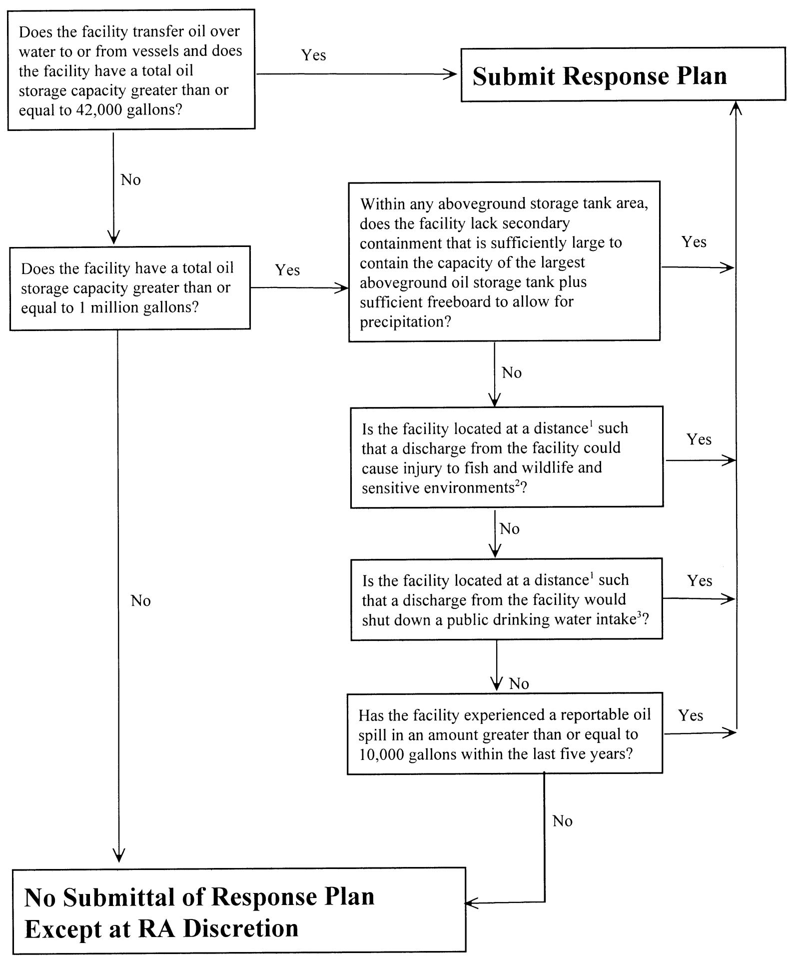
Chow, V.T. 1959. Open Channel Hydraulics. McGraw Hill.

USCG IFR (58 FR 7353, February 5, 1993). This document is available through EPA's rulemaking docket as noted in Appendix E to this part, section 13.

ATTACHMENTS TO APPENDIX C

Attachment C-I

Flowchart of Criteria for Substantial Harm



[1] Calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula.

[2] For further description of fish and wildlife and sensitive environments, see Appendices I,II, and III to DOC/NOAA's "Guidance for Facility and vessel response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.

[3] Public drinking water intakes are analogous to public water systems as described at CFR 143.2(c).

ATTACHMENT C-II—CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: ____________________________

Facility Address: __________________________

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 oil 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 in Attachment C–III to this appendix or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

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 the appropriate formula in Attachment C-III to this appendix or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?

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 discharge 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.

____
Signature

____
Name (please type or print)

____
Title

____
Date

ATTACHMENT C-III—CALCULATION OF THE PLANNING DISTANCE

1.0 Introduction

1.1 The facility owner or operator must evaluate whether the facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments or disrupt operations at a public drinking water intake. To quantify that distance, EPA considered oil transport mechanisms over land and on still, tidal influence, and moving navigable waters. EPA has determined that the primary concern for calculation of a planning distance is the transport of oil in navigable waters during adverse weather conditions. Therefore, two formulas have been developed to determine distances for planning purposes from the point of discharge at the facility to the potential site of impact on moving and still waters, respectively. The formula for oil transport on moving navigable water is based on the velocity of the water body and the time interval for arrival of response resources. The still water formula accounts for the spread of discharged oil over the surface of the water. The method to determine oil transport on tidal influence areas is based on the type of oil discharged and the distance down current during ebb tide and up current during flood tide to the point of maximum tidal influence.

1.2 EPA's formulas were designed to be simple to use. However, facility owners or operators may calculate planning distances using more sophisticated formulas, which take into account broader scientific or engineering principles, or local conditions. Such comparable formulas may result in different planning distances than EPA's formulas. In the event that an alternative formula that is comparable to one contained in this appendix is used to evaluate the criterion in 40 CFR 112.20(f)(1)(ii)(B) or (f)(1)(ii)(C), the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula and shall notify the Regional Administrator in

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

writing that an alternative formula was used.[1]

1.3 A regulated facility may meet the criteria for the potential to cause substantial harm to the environment without having to perform a planning distance calculation. For facilities that meet the substantial harm criteria because of inadequate secondary containment or oil spill history, as listed in the flowchart in Attachment C–I to this appendix, calculation of the planning distance is unnecessary. For facilities that do not meet the substantial harm criteria for secondary containment or oil spill history as listed in the flowchart, calculation of a planning distance for proximity to fish and wildlife and sensitive environments and public drinking water intakes is required, unless it is clear without performing the calculation (e.g., the facility is located in a wetland) that these areas would be impacted.

1.4 A facility owner or operator who must perform a planning distance calculation on navigable water is only required to do so for the type of navigable water conditions (i.e., moving water, still water, or tidal- influenced water) applicable to the facility. If a facility owner or operator determines that more than one type of navigable water condition applies, then the facility owner or operator is required to perform a planning distance calculation for each navigable water type to determine the greatest single distance that oil may be transported. As a result, the final planning distance for oil transport on water shall be the greatest individual distance rather than a summation of each calculated planning distance.

1.5 The planning distance formula for transport on moving waterways contains three variables: the velocity of the navigable water (v), the response time interval (t), and a conversion factor (c). The velocity, v, is determined by using the Chezy-Manning equation, which, in this case, models the flood flow rate of water in open channels. The Chezy-Manning equation contains three variables which must be determined by facility owners or operators. Manning's Roughness Coefficient (for flood flow rates), n, can be determined from Table 1 of this attachment. The hydraulic radius, r, can be estimated using the average mid-channel depth from charts provided by the sources listed in Table 2 of this attachment. The average slope of the river, s, can be determined using topographic maps that can be ordered from the U.S. Geological Survey, as listed in Table 2 of this attachment.

1.6 Table 3 of this attachment contains specified time intervals for estimating the arrival of response resources at the scene of a discharge. Assuming no prior planning, response resources should be able to arrive at the discharge site within 12 hours of the discovery of any oil discharge in Higher Volume Port Areas and within 24 hours in Great Lakes and all other river, canal, inland, and nearshore areas. The specified time intervals in Table 3 of Appendix C are to be used only to aid in the identification of whether a facility could cause substantial harm to the environment. Once it is determined that a plan must be developed for the facility, the owner or operator shall reference Appendix E to this part to determine appropriate resource levels and response times. The specified time intervals of this appendix include a 3-hour time period for deployment of boom and other response equipment. The Regional Administrator may identify additional areas as appropriate.

2.0 Oil Transport on Moving Navigable Waters

2.1 The facility owner or operator must use the following formula or a comparable formula as described in §112.20(a)(3) to calculate the planning distance for oil transport on moving navigable water:

$d=v \times t \times c$; where

d: the distance downstream from a facility within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down in the event of an oil discharge (in miles);

v: the velocity of the river/navigable water of concern (in ft/sec) as determined by Chezy-Manning's equation (see below and Tables 1 and 2 of this attachment);

t: the time interval specified in Table 3 based upon the type of water body and location (in hours); and

c: constant conversion factor 0.68 secω mile/hrω ft (3600 sec/hr ÷ 5280 ft/mile).

2.2 Chezy-Manning's equation is used to determine velocity:

$v=1.5/n \times r^{2/3} \times s^{1/2}$; where

v=the velocity of the river of concern (in ft/sec);

n=Manning's Roughness Coefficient from Table 1 of this attachment;

r=the hydraulic radius; the hydraulic radius can be approximated for parabolic channels by multiplying the average mid-channel depth of the river (in feet) by 0.667

[1] For persistent oils or non-persistent oils, a worst case trajectory model (i.e., an alternative formula) may be substituted for the distance formulas described in still, moving, and tidal waters, subject to Regional Administrator's review of the model. An example of an alternative formula that is comparable to the one contained in this appendix would be a worst case trajectory calculation based on credible adverse winds, currents, and/or river stages, over a range of seasons, weather conditions, and river stages. Based on historical information or a spill trajectory model, the Agency may require that additional fish and wildlife and sensitive environments or public drinking water intakes also be protected.

(sources for obtaining the mid-channel depth are listed in Table 2 of this attachment); and

s=the average slope of the river (unitless) obtained from U.S. Geological Survey topographic maps at the address listed in Table 2 of this attachment.

TABLE 1—MANNING'S ROUGHNESS COEFFICIENT FOR NATURAL STREAMS

[NOTE: Coefficients are presented for high flow rates at or near flood stage.]

Stream description	Roughness coefficient (n)
Minor Streams (Top Width <100 ft.)	
Clean:	
Straight	0.03
Winding	0.04
Sluggish (Weedy, deep pools):	
No trees or brush	0.06
Trees and/or brush	0.10
Major Streams (Top Width >100 ft.)	
Regular section:	
(No boulders/brush)	0.035
Irregular section:	
(Brush)	0.05

TABLE 2—SOURCES OF R AND S FOR THE CHEZY-MANNING EQUATION

All of the charts and related publications for navigational waters may be ordered from:
Distribution Branch
(N/CG33)
National Ocean Service
Riverdale, Maryland 20737–1199
Phone: (301) 436–6990

There will be a charge for materials ordered and a VISA or Mastercard will be accepted.

The mid-channel depth to be used in the calculation of the hydraulic radius (r) can be obtained directly from the following sources:

Charts of Canadian Coastal and Great Lakes Waters:
Canadian Hydrographic Service
Department of Fisheries and Oceans Institute
P.O. Box 8080
1675 Russell Road
Ottawa, Ontario KIG 3H6
Canada
Phone: (613) 998–4931

Charts and Maps of Lower Mississippi River (Gulf of Mexico to Ohio River and St. Francis, White, Big Sunflower, Atchafalaya, and other rivers):
U.S. Army Corps of Engineers
Vicksburg District
P.O. Box 60
Vicksburg, Mississippi 39180
Phone: (601) 634–5000

Charts of Upper Mississippi River and Illinois Waterway to Lake Michigan:
U.S. Army Corps of Engineers
Rock Island District
P.O. Box 2004
Rock Island, Illinois 61204
Phone: (309) 794–5552

Charts of Missouri River:
U.S. Army Corps of Engineers
Omaha District
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102
Phone: (402) 221–3900

Charts of Ohio River:
U.S. Army Corps of Engineers
Ohio River Division
P.O. Box 1159
Cincinnati, Ohio 45201
Phone: (513) 684–3002

Charts of Tennessee Valley Authority Reservoirs, Tennessee River and Tributaries:
Tennessee Valley Authority
Maps and Engineering Section
416 Union Avenue
Knoxville, Tennessee 37902
Phone: (615) 632–2921

Charts of Black Warrior River, Alabama River, Tombigbee River, Apalachicola River and Pearl River:
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, Alabama 36628–0001
Phone: (205) 690–2511

The average slope of the river (s) may be obtained from topographic maps:
U.S. Geological Survey
Map Distribution
Federal Center
Bldg. 41
Box 25286
Denver, Colorado 80225

Additional information can be obtained from the following sources:

1. The State's Department of Natural Resources (DNR) or the State's Aids to Navigation office;
2. A knowledgeable local marina operator; or
3. A knowledgeable local water authority (e.g., State water commission)

2.3 The average slope of the river (s) can be determined from the topographic maps using the following steps:

(1) Locate the facility on the map.

(2) Find the Normal Pool Elevation at the point of discharge from the facility into the water (A).

(3) Find the Normal Pool Elevation of the public drinking water intake or fish and wildlife and sensitive environment located downstream (B) (Note: The owner or operator should use a minimum of 20 miles downstream as a cutoff to obtain the average slope if the location of a specific public drinking water intake or fish and wildlife and sensitive environment is unknown).

(4) If the Normal Pool Elevation is not available, the elevation contours can be used to find the slope. Determine elevation of the water at the point of discharge from the facility (A). Determine the elevation of the

water at the appropriate distance downstream (B). The formula presented below can be used to calculate the slope.

(5) Determine the distance (in miles) between the facility and the public drinking water intake or fish and wildlife and sensitive environments (C).

(6) Use the following formula to find the slope, which will be a unitless value: Average Slope=[(A−B) (ft)/C (miles)] × [1 mile/5280 feet]

2.4 If it is not feasible to determine the slope and mid-channel depth by the Chezy-Manning equation, then the river velocity can be approximated on- site. A specific length, such as 100 feet, can be marked off along the shoreline. A float can be dropped into the stream above the mark, and the time required for the float to travel the distance can be used to determine the velocity in feet per second. However, this method will not yield an average velocity for the length of the stream, but a velocity only for the specific location of measurement. In addition, the flow rate will vary depending on weather conditions such as wind and rainfall. It is recommended that facility owners or operators repeat the measurement under a variety of conditions to obtain the most accurate estimate of the surface water velocity under adverse weather conditions.

2.5 The planning distance calculations for moving and still navigable waters are based on worst case discharges of persistent oils. Persistent oils are of concern because they can remain in the water for significant periods of time and can potentially exist in large quantities downstream. Owners or operators of facilities that store persistent as well as non-persistent oils may use a comparable formula. The volume of oil discharged is not included as part of the planning distance calculation for moving navigable waters. Facilities that will meet this substantial harm criterion are those with facility capacities greater than or equal to 1 million gallons. It is assumed that these facilities are capable of having an oil discharge of sufficient quantity to cause injury to fish and wildlife and sensitive environments or shut down a public drinking water intake. While owners or operators of transfer facilities that store greater than or equal to 42,000 gallons are not required to use a planning distance formula for purposes of the substantial harm criteria, they should use a planning distance calculation in the development of facility-specific response plans.

TABLE 3—SPECIFIED TIME INTERVALS

Operating areas	Substantial harm planning time (hrs)
Higher volume port area.	12 hour arrival+3 hour deployment=15 hours.
Great Lakes ...	24 hour arrival+3 hour deployment=27 hours.
All other rivers and canals, inland, and nearshore areas.	24 hour arrival+3 hour deployment=27 hours.

2.6 *Example of the Planning Distance Calculation for Oil Transport on Moving Navigable Waters.* The following example provides a sample calculation using the planning distance formula for a facility discharging oil into the Monongahela River:

(1) Solve for v by evaluating n, r, and s for the Chezy-Manning equation:

Find the roughness coefficient, n, on Table 1 of this attachment for a regular section of a major stream with a top width greater than 100 feet. The top width of the river can be found from the topographic map.

n=0.035.

Find slope, s, where A=727 feet, B=710 feet, and C=25 miles.

Solving:

s=[(727 ft−1710 ft)/25 miles]×[1 mile/5280 feet]=1.3×10^{-4}

The average mid-channel depth is found by averaging the mid-channel depth for each mile along the length of the river between the facility and the public drinking water intake or the fish or wildlife or sensitive environment (or 20 miles downstream if applicable). This value is multiplied by 0.667 to obtain the hydraulic radius. The mid-channel depth is found by obtaining values for r and s from the sources shown in Table 2 for the Monongahela River.

Solving:

r=0.667×20 feet=13.33 feet

Solve for v using:

$v=1.5/n\times r^{2/3}\times s^{1/2}$:

$v=[1.5/0.035]\times(13.33)^{2/3}\times(1.3\times10^{-4})^{1/2}$

v=2.73 feet/second

(2) Find t from Table 3 of this attachment. The Monongahela River’s resource response time is 27 hours.

(3) Solve for planning distance, d:

d=v×t×c

d=(2.73 ft/sec)×(27 hours)×(0.68 secω mile/hrω ft)

d=50 miles

Therefore, 50 miles downstream is the appropriate planning distance for this facility.

3.0 Oil Transport on Still Water

3.1 For bodies of water including lakes or ponds that do not have a measurable velocity, the spreading of the oil over the surface must be considered. Owners or operators of facilities located next to still water bodies may use a comparable means of calculating the planning distance. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable calculation must be attached to the response plan cover sheet.

3.2 *Example of the Planning Distance Calculation for Oil Transport on Still Water.* To assist those facilities which could potentially discharge into a still body of water, the following analysis was performed to provide an example of the type of formula that may be used to calculate the planning distance. For this example, a worst case discharge of 2,000,000 gallons is used.

(1) The surface area in square feet covered by an oil discharge on still water, A1, can be determined by the following formula,[2] where V is the volume of the discharge in gallons and C is a constant conversion factor:

$A_1=10^5\times V^{3/4}\times C$

$C=0.1643$

$A_1=10^5\times(2{,}000{,}000 \text{ gallons})^{3/4}\times(0.1643)$

$A_1=8.74\times10^8 \text{ ft}^2$

(2) The spreading formula is based on the theoretical condition that the oil will spread uniformly in all directions forming a circle. In reality, the outfall of the discharge will direct the oil to the surface of the water where it intersects the shoreline. Although the oil will not spread uniformly in all directions, it is assumed that the discharge will spread from the shoreline into a semi-circle (this assumption does not account for winds or wave action).

(3) The area of a circle=† r^2

(4) To account for the assumption that oil will spread in a semi-circular shape, the area of a circle is divided by 2 and is designated as A_2.

A_2=(† r^2)/2

Solving for the radius, r, using the relationship $A_1=A_2$: $8.74\times10^8 \text{ ft}^2$=(†^{2})/2

Therefore, r=23,586 ft

r=23,586 ft÷5,280 ft/mile=4.5 miles

Assuming a 20 knot wind under storm conditions:

1 knot=1.15 miles/hour

20 knots×1.15 miles/hour/knot=23 miles/hr

Assuming that the oil slick moves at 3 percent of the wind's speed:[3]

23 miles/hour×0.03=0.69 miles/hour

(5) To estimate the distance that the oil will travel, use the times required for response resources to arrive at different geographic locations as shown in Table 3 of this attachment.

For example:

For Higher Volume Port Areas: 15 hrs×0.69 miles/hr=10.4 miles

For Great Lakes and all other areas: 27 hrs×0.69 miles/hr=18.6 miles

(6) The total distance that the oil will travel from the point of discharge, including the distance due to spreading, is calculated as follows:

Higher Volume Port Areas: d=10.4+4.5 miles or approximately 15 miles

Great Lakes and all other areas: d=18.6+4.5 miles or approximately 23 miles

4.0 Oil Transport on Tidal-Influence Areas

4.1 The planning distance method for tidal influence navigable water is based on worst case discharges of persistent and non-persistent oils. Persistent oils are of primary concern because they can potentially cause harm over a greater distance. For persistent oils discharged into tidal waters, the planning distance is 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.

4.2 For non-persistent oils discharged into tidal waters, the planning distance is 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.

4.3 *Example of Determining the Planning Distance for Two Types of Navigable Water Conditions.* Below is an example of how to determine the proper planning distance when a facility could impact two types of navigable water conditions: moving water and tidal water.

(1) Facility X stores persistent oil and is located downstream from locks along a slow moving river which is affected by tides. The river velocity, v, is determined to be 0.5 feet/second from the Chezy-Manning equation used to calculate oil transport on moving navigable waters. The specified time interval, t, obtained from Table 3 of this attachment for river areas is 27 hours. Therefore, solving for the planning distance, d:

d=v×t×c

d=(0.5 ft/sec)×(27 hours)×(0.68 secmile/hrft)

d=9.18 miles.

(2) However, the planning distance for maximum tidal influence down current during ebb tide is 15 miles, which is greater than the calculated 9.18 miles. Therefore, 15 miles downstream is the appropriate planning distance for this facility.

5.0 Oil Transport Over Land

5.1 Facility owners or operators must evaluate the potential for oil to be transported over land to navigable waters of the United States. The owner or operator must evaluate the likelihood that portions of a worst case discharge would reach navigable

[2] Huang, J.C. and Monastero, F.C., 1982. *Review of the State-of-the-Art of Oil Pollution Models.* Final report submitted to the American Petroleum Institute by Raytheon Ocean Systems, Co., East Providence, Rhode Island.

[3] *Oil Spill Prevention & Control.* National Spill Control School, Corpus Christi State University, Thirteenth Edition, May 1990.

waters via open channel flow or from sheet flow across the land, or be prevented from reaching navigable waters when trapped in natural or man-made depressions excluding secondary containment structures.

5.2 As discharged oil travels over land, it may enter a storm drain or open concrete channel intended for drainage. It is assumed that once oil reaches such an inlet, it will flow into the receiving navigable water. During a storm event, it is highly probable that the oil will either flow into the drainage structures or follow the natural contours of the land and flow into the navigable water. Expected minimum and maximum velocities are provided as examples of open concrete channel and pipe flow. The ranges listed below reflect minimum and maximum velocities used as design criteria.[4] The calculation below demonstrates that the time required for oil to travel through a storm drain or open concrete channel to navigable water is negligible and can be considered instantaneous. The velocities are:

For open concrete channels:
maximum velocity=25 feet per second
minimum velocity=3 feet per second
For storm drains:
maximum velocity=25 feet per second
minimum velocity=2 feet per second

5.3 Assuming a length of 0.5 mile from the point of discharge through an open concrete channel or concrete storm drain to a navigable water, the travel times (distance/velocity) are:

1.8 minutes at a velocity of 25 feet per second
14.7 minutes at a velocity of 3 feet per second
22.0 minutes for at a velocity of 2 feet per second

5.4 The distances that shall be considered to determine the planning distance are illustrated in Figure C-I of this attachment. The relevant distances can be described as follows:

D1=Distance from the nearest opportunity for discharge, X_1, to a storm drain or an open concrete channel leading to navigable water.
D2=Distance through the storm drain or open concrete channel to navigable water.
D3=Distance downstream from the outfall within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down as determined by the planning distance formula.
D4=Distance from the nearest opportunity for discharge, X_2, to fish and wildlife and sensitive environments not bordering navigable water.

5.5 A facility owner or operator whose nearest opportunity for discharge is located within 0.5 mile of a navigable water must complete the planning distance calculation (D3) for the type of navigable water near the facility or use a comparable formula.

5.6 A facility that is located at a distance greater than 0.5 mile from a navigable water must also calculate a planning distance (D3) if it is in close proximity (i.e., D1 is less than 0.5 mile and other factors are conducive to oil travel over land) to storm drains that flow to navigable waters. Factors to be considered in assessing oil transport over land to storm drains shall include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity. Storm drains or concrete drainage channels that are located in close proximity to the facility can provide a direct pathway to navigable waters, regardless of the length of the drainage pipe. If D1 is less than or equal to 0.5 mile, a discharge from the facility could pose substantial harm because the time to travel the distance from the storm drain to the navigable water (D2) is virtually instantaneous.

5.7 A facility's proximity to fish and wildlife and sensitive environments not bordering a navigable water, as depicted as D4 in Figure C–I of this attachment, must also be considered, regardless of the distance from the facility to navigable waters. Factors to be considered in assessing oil transport over land to fish and wildlife and sensitive environments should include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity.

5.8 If a facility is not found to pose substantial harm to fish and wildlife and sensitive environments not bordering navigable waters via oil transport on land, then supporting documentation should be maintained at the facility. However, such documentation should be submitted with the response plan if a facility is found to pose substantial harm.

[4] The design velocities were obtained from Howard County, Maryland Department of Public Works' Storm Drainage Design Manual.

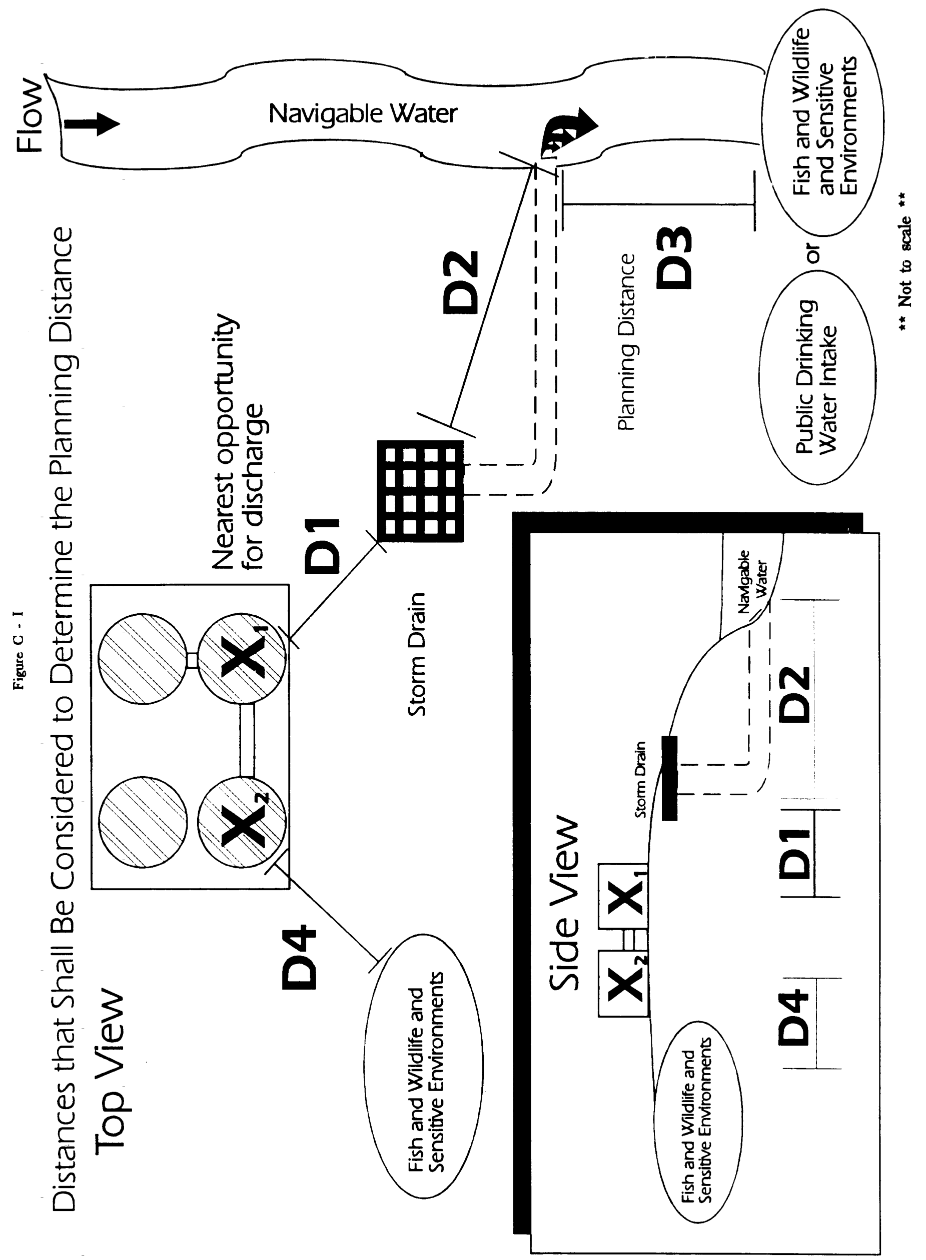


Figure C - I

[59 FR 34102, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 67 FR 47152, July 17, 2002]

Appendix D to Part 112—Determination of a Worst Case Discharge Planning Volume

1.0 Instructions

1.1 An owner or operator is required to complete this worksheet if the facility meets the criteria, as presented in Appendix C to this part, or it is determined by the RA that the facility could cause substantial harm to the environment. The calculation of a worst case discharge planning volume is used for emergency planning purposes, and is required in 40 CFR 112.20 for facility owners or operators who must prepare a response plan. When planning for the amount of resources and equipment necessary to respond to the worst case discharge planning volume, adverse weather conditions must be taken into consideration. An owner or operator is required to determine the facility's worst case discharge planning volume from either part A of this appendix for an onshore storage facility, or part B of this appendix for an onshore production facility. The worksheet considers the provision of adequate secondary containment at a facility.

1.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In a worst case discharge scenario, a single failure could cause the discharge of the contents of more than one tank. The owner or operator must provide evidence in the response plan that tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge planning volume would be based on the capacity of the largest oil storage tank within a common secondary containment area or the largest oil storage tank within a single secondary containment area, whichever is greater. For permanently manifolded tanks that function as one oil storage unit, the worst case discharge planning volume would be based on the combined oil storage capacity of all manifolded tanks or the capacity of the largest single oil storage tank within a secondary containment area, whichever is greater. For purposes of this rule, permanently manifolded tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.3 For production facilities, the presence of exploratory wells, production wells, and oil storage tanks must be considered in the calculation. Part B of this appendix takes these additional factors into consideration and provides steps for their inclusion in the total worst case discharge planning volume. Onshore oil production facilities may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator. Although a potential worst case discharge planning volume is calculated within each section of the worksheet, the final worst case amount depends on the risk parameter that results in the greatest volume.

1.4 Marine transportation-related transfer facilities that contain fixed aboveground onshore structures used for bulk oil storage are jointly regulated by EPA and the U.S. Coast Guard (USCG), and are termed ''complexes.'' Because the USCG also requires response plans from transportation-related facilities to address a worst case discharge of oil, a separate calculation for the worst case discharge planning volume for USCG-related facilities is included in the USCG IFR (see Appendix E to this part, section 13, for availability). All complexes that are jointly regulated by EPA and the USCG must compare both calculations for worst case discharge planning volume derived by using the EPA and USCG methodologies and plan for whichever volume is greater.

PART A: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE STORAGE FACILITIES [1]

Part A of this worksheet is to be completed by the owner or operator of an SPCC-regulated facility (excluding oil production facilities) if the facility meets the criteria as presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm to the environment. If you are the owner or operator of a production facility, please proceed to part B of this worksheet.

A.1 SINGLE-TANK FACILITIES

For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the oil storage tank. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the oil storage tank, multiply the capacity of the tank by 0.8.

(1) FINAL WORST CASE VOLUME: ________ GAL

(2) Do not proceed further.

[1] ''Storage facilities'' represent all facilities subject to this part, excluding oil production facilities.

A.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?[2]

_______ (Y/N)

A.2.1 If the answer is yes, the final worst case discharge planning volume equals the *total aboveground oil storage capacity at the facility*.

(1) FINAL WORST CASE VOLUME: _______ GAL

(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER ''0'' (zero).

_______ GAL

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.2.

FINAL WORST CASE VOLUME:[3] _____ GAL

PART B: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE PRODUCTION FACILITIES

Part B of this worksheet is to be completed by the owner or operator of an SPCC-regulated oil production facility if the facility meets the criteria presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm. A production facility consists of all wells (producing and exploratory) and related equipment in a single geographical oil or gas field operated by a single operator.

B.1 SINGLE-TANK FACILITIES

B.1.1 For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the aboveground oil storage tank plus the production volume of the well with the highest output at the facility. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the storage tank, multiply the capacity of the tank by 0.8.

B.1.2 For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

B.1.3 If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

B.1.4 Attachment D–1 to this appendix provides methods for calculating the production volume for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME: _______ GAL

(2) Do not proceed further.

B.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?

_____ (Y/N)

B.2.1 If the answer is yes, the final worst case volume equals the total aboveground oil storage capacity without adequate secondary containment plus the production volume of the well with the highest output at the facility.

(1) For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

(2) If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

(3) Attachment D–1 to this appendix provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(A) FINAL WORST CASE VOLUME: _______ GAL

(B) Do not proceed further.

[2] Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

[3] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

B.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER ''0'' (zero).

_______ GAL

B.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, plus the production volume of the well with the highest output, PLUS THE VOLUME FROM QUESTION B.2.2. Attachment D–1 provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME:[4] _______ GAL

(2) Do not proceed further.

ATTACHMENTS TO APPENDIX D

ATTACHMENT D–I—METHODS TO CALCULATE PRODUCTION VOLUMES FOR PRODUCTION FACILITIES WITH EXPLORATORY WELLS OR PRODUCTION WELLS PRODUCING UNDER PRESSURE

1.0 Introduction

The owner or operator of a production facility with exploratory wells or production wells producing under pressure shall compare the well rate of the highest output well (rate of well), in barrels per day, to the ability of response equipment and personnel to recover the volume of oil that could be discharged (rate of recovery), in barrels per day. The result of this comparison will determine the method used to calculate the production volume for the production facility. This production volume is to be used to calculate the worst case discharge planning volume in part B of this appendix.

2.0 Description of Methods

2.1 Method A

If the well rate would overwhelm the response efforts (i.e., rate of well/rate of recovery ≥1), then the production volume would be the 30-day forecasted well rate for a well 10,000 feet deep or less, or the 45-day forecasted well rate for a well deeper than 10,000 feet.

(1) For wells 10,000 feet deep or less:

Production volume=30 days × rate of well.

(2) For wells deeper than 10,000 feet:

Production volume=45 days × rate of well.

2.2 Method B

2.2.1 If the rate of recovery would be greater than the well rate (i.e., rate of well/rate of recovery <1), then the production volume would equal the sum of two terms:

Production volume=discharge volume$_1$ + discharge volume$_2$

2.2.2 The first term represents the volume of the oil discharged from the well between the time of the blowout and the time the response resources are on scene and recovering oil (discharge volume$_1$).

Discharge volume$_1$=(days unattended+days to respond) × (rate of well)

2.2.3 The second term represents the volume of oil discharged from the well after the response resources begin operating until the discharge is stopped, adjusted for the recovery rate of the response resources (discharge volume $_2$).

(1) For wells 10,000 feet deep or less:

Discharge volume$_2$=[30 days − (days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

(2) For wells deeper than 10,000 feet:

Discharge volume$_2$=[45 days − (days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

3.0 Example

3.1 A facility consists of two production wells producing under pressure, which are both less than 10,000 feet deep. The well rate of well A is 5 barrels per day, and the well rate of well B is 10 barrels per day. The facility is unattended for a maximum of 7 days. The facility operator estimates that it will take 2 days to have response equipment and personnel on scene and responding to a blowout, and that the projected rate of recovery will be 20 barrels per day.

(1) First, the facility operator determines that the highest output well is well B. The facility operator calculates the ratio of the rate of well to the rate of recovery:

10 barrels per day/20 barrels per day=0.5 Because the ratio is less than one, the facility operator will use Method B to calculate the production volume.

(2) The first term of the equation is:

Discharge volume$_1$=(7 days + 2 days) × (10 barrels per day)=90 barrels

(3) The second term of the equation is:

Discharge volume $_2$=[30 days—(7 days + 2 days)] × (10 barrels per day) × (0.5)=105 barrels

(4) Therefore, the production volume is:

Production volume=90 barrels + 105 barrels=195 barrels

[4] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

3.2 If the recovery rate was 5 barrels per day, the ratio of rate of well to rate of recovery would be 2, so the facility operator would use Method A. The production volume would have been:

30 days × 10 barrels per day=300 barrels

[59 FR 34110, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40800, June 30, 2000; 67 FR 47152, July 17, 2002]

APPENDIX E TO PART 112—DETERMINATION AND EVALUATION OF REQUIRED RESPONSE RESOURCES FOR FACILITY RESPONSE PLANS

1.0 Purpose and Definitions

1.1 The purpose of this appendix is to describe the procedures to identify response resources to meet the requirements of §112.20. To identify response resources to meet the facility response plan requirements of 40 CFR 112.20(h), owners or operators shall follow this appendix or, where not appropriate, shall clearly demonstrate in the response plan why use of this appendix is not appropriate at the facility and make comparable arrangements for response resources.

1.2 Definitions.

1.2.1 *Animal fat* means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin. Animal fats are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.2 *Nearshore* is an operating area defined as extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending 12 miles from the line of demarcation (COLREG lines) defined in 49 CFR 80.740 and 80.850.

1.2.3 *Non-persistent oils* or *Group 1 oils* include:

(1) A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

(A) At least 50 percent of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and

(B) At least 95 percent of which by volume, distill at a temperature of 370 degrees C (700 degrees F); and

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity less than 0.8.

1.2.4 *Non-petroleum oil* means oil of any kind that is not petroleum-based, including but not limited to: fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

1.2.5 *Ocean* means the nearshore area.

1.2.6 *Operating area* means Rivers and Canals, Inland, Nearshore, and Great Lakes geographic location(s) in which a facility is handling, storing, or transporting oil.

1.2.7 *Operating environment* means Rivers and Canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.

1.2.8 *Persistent oils* include:

(1) A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. Persistent oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity of 0.8 or greater. These oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity equal to or greater than 0.8 and less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

1.2.9 *Vegetable oil* means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels. Vegetable oils are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.10 Other definitions are included in §112.2, section 1.1 of Appendix C, and section 3.0 of Appendix F.

2.0 Equipment Operability and Readiness

2.1 All equipment identified in a response plan must be designed to operate in the conditions expected in the facility's geographic area (i.e., operating environment). These conditions vary widely based on location and season. Therefore, it is difficult to identify a single stockpile of response equipment that will function effectively in each geographic location (i.e., operating area).

2.2 Facilities handling, storing, or transporting oil in more than one operating environment as indicated in Table 1 of this appendix must identify equipment capable of successfully functioning in each operating environment.

2.3 When identifying equipment for the response plan (based on the use of this appendix), a facility owner or operator must consider the inherent limitations of the operability of equipment components and response systems. The criteria in Table 1 of this appendix shall be used to evaluate the operability in a given environment. These criteria reflect the general conditions in certain operating environments.

2.3.1 The Regional Administrator may require documentation that the boom identified in a facility response plan meets the criteria in Table 1 of this appendix. Absent acceptable documentation, the Regional Administrator may require that the boom be tested to demonstrate that it meets the criteria in Table 1 of this appendix. Testing must be in accordance with ASTM F 715, ASTM F 989, or other tests approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

2.4 Table 1 of this appendix lists criteria for oil recovery devices and boom. All other equipment necessary to sustain or support response operations in an operating environment must be designed to function in the same conditions. For example, boats that deploy or support skimmers or boom must be capable of being safely operated in the significant wave heights listed for the applicable operating environment.

2.5 A facility owner or operator shall refer to the applicable Area Contingency Plan (ACP), where available, to determine if ice, debris, and weather-related visibility are significant factors to evaluate the operability of equipment. The ACP may also identify the average temperature ranges expected in the facility's operating area. All equipment identified in a response plan must be designed to operate within those conditions or ranges.

2.6 This appendix provides information on response resource mobilization and response times. The distance of the facility from the storage location of the response resources must be used to determine whether the resources can arrive on-scene within the stated time. A facility owner or operator shall include the time for notification, mobilization, and travel of resources identified to meet the medium and Tier 1 worst case discharge requirements identified in sections 4.3 and 9.3 of this appendix (for medium discharges) and section 5.3 of this appendix (for worst case discharges). The facility owner or operator must plan for notification and mobilization of Tier 2 and 3 response resources as necessary to meet the requirements for arrival on-scene in accordance with section 5.3 of this appendix. An on-water speed of 5 knots and a land speed of 35 miles per hour is assumed, unless the facility owner or operator can demonstrate otherwise.

2.7 In identifying equipment, the facility owner or operator shall list the storage location, quantity, and manufacturer's make and model. For oil recovery devices, the effective daily recovery capacity, as determined using section 6 of this appendix, must be included. For boom, the overall boom height (draft and freeboard) shall be included. A facility owner or operator is responsible for ensuring that the identified boom has compatible connectors.

3.0 Determining Response Resources Required for Small Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

3.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

3.2 Complexes that are regulated by EPA and the United States Coast Guard (USCG) must also consider planning quantities for the transportation-related transfer portion of the facility.

3.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's ''small discharge'' is termed ''the average most probable discharge.'' A USCG rule found at 33 CFR 154.1020 defines ''the average most probable discharge'' as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of complexes that handle, store, or transport petroleum oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

3.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a small discharge. There is no USCG planning level that directly corresponds to EPA's ''small discharge.'' However, the USCG (at 33 CFR 154.545) has requirements to identify equipment to contain oil resulting from an operational discharge.

3.3 The response resources shall, as appropriate, include:

3.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

3.3.2 Oil recovery devices with an effective daily recovery capacityequal to the amount of oil discharged in a small discharge or greater which is available at the facility within 2 hours of the detection of an oil discharge; and

3.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

4.0 Determining Response Resources Required for Medium Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

4.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of oil for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

4.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility.

4.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's "medium discharge" is termed "the maximum most probable discharge." The USCG rule found at 33 CFR part 154 defines "the maximum most probable discharge" as a discharge of 1,200 barrels (50,400 gallons) or 10 percent of the worst case discharge, whichever is less. Owners or operators of complexes that handle, store, or transport petroleum oils must compare calculated discharge volumes for a medium discharge and a maximum most probable discharge, and plan for whichever quantity is greater.

4.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's "medium discharge."

4.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

4.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 4.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

4.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

4.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

4.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area: The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

5.0 Determining Response Resources Required for the Worst Case Discharge to the Maximum Extent Practicable

5.1 A facility owner or operator shall identify and ensure the availability of, by contract or other approved means as described in §112.2, sufficient response resources to respond to the worst case discharge of oil to the maximum extent practicable. Sections 7 and 10 of this appendix describe the method to determine the necessary response resources. Worksheets are provided as Attachments E–1 and E–2 at the end of this appendix to simplify the procedures involved in calculating the planning volume for response resources for the worst case discharge.

5.1 A facility owner or operator shall identify and ensure the availability of, by contract or other approved means as described in §112.2, sufficient response resources to respond to the worst case discharge of oil to the maximum extent practicable. Sections 7 and 10 of this appendix describe the method to determine the necessary response resources. Worksheets are provided as Attachments E–1 and E–2 at the end of this appendix to simplify the procedures involved in calculating the planning volume for response resources for the worst case discharge.

5.2 Complexes that are regulated by EPA and the USCG must also consider planning for the worst case discharge at the transportation-related portion of the facility. The USCG requires that transportation-related facility owners or operators use a different calculation for the worst case discharge in the revisions to 33 CFR part 154. Owners or operators of complex facilities that are regulated by EPA and the USCG must compare both calculations of worst case discharge derived by EPA and the USCG and plan for whichever volume is greater.

5.3 Oil discharge response resources identified in the response plan and available, by contract or other approved means as described in §112.2, to meet the applicable worst case discharge planning volume must be located such that they are capable of arriving at the scene of a discharge within the times specified for the applicable response tier listed as follows

	Tier 1 (in hours)	Tier 2 (in hours)	Tier 3 (in hours)
Higher volume port areas	6	30	54
Great Lakes	12	36	60
All other river and canal, inland, and nearshore areas	12	36	60

The three levels of response tiers apply to the amount of time in which facility owners or operators must plan for response resources to arrive at the scene of a discharge to respond to the worst case discharge planning volume. For example, at a worst case discharge in an inland area, the first tier of response resources (*i.e.,* that amount of onwater and shoreline cleanup capacity necessary to respond to the fraction of the worst case discharge as indicated through the series of steps described in sections 7.2 and 7.3 or sections 10.2 and 10.3 of this appendix) would arrive at the scene of the discharge within 12 hours; the second tier of response resources would arrive within 36 hours; and the third tier of response resources would arrive within 60 hours.

5.4 The effective daily recovery capacity for oil recovery devices identified in the response plan must be determined using the criteria in section 6 of this appendix. A facility owner or operator shall identify the storage locations of all response resources used for each tier. The owner or operator of a facility whose required daily recovery capacity exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment, their location, and the arrangements made to obtain this equipment during a response. The owner or operator of a facility whose calculated planning volume exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment equal to twice the cap listed in Tier 3 or the amount necessary to reach the calculated planning volume, whichever is lower. The resources identified above the cap shall be capable of arriving on-scene not later than the Tier 3 response times in section 5.3 of this appendix. No contract is required. While general listings of available response equipment may be used to identify additional sources (i.e., ''public'' resources vs. ''private'' resources), the response plan shall identify the specific sources, locations, and quantities of equipment that a facility owner or operator has considered in his or her planning. When listing USCG-classified oil spill removal organization(s) that have sufficient removal capacity to recover the volume above the response capacity cap for the specific facility, as specified in Table 5 of this appendix, it is not necessary to list specific quantities of equipment.

5.5 A facility owner or operator shall identify the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

5.6 When selecting response resources necessary to meet the response plan requirements, the facility owner or operator shall, as appropriate, ensure that a portion of those resources is capable of being used in close-to-shore response activities in shallow water. For any EPA-regulated facility that is required to plan for response in shallow water, at least 20 percent of the on-water response equipment identified for the applicable operating area shall, as appropriate, be capable of operating in water of 6 feet or less depth.

5.7 In addition to oil spill recovery devices, a facility owner or operator shall identify sufficient quantities of boom that are available, by contract or other approved means as described in §112.2, to arrive onscene within the specified response times for oil containment and collection. The specific quantity of boom required for collection and containment will depend on the facility-specific information and response strategies employed. A facility owner or operator shall, as appropriate, also identify sufficient quantities of oil containment boom to protect fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability), and the applicable ACP. Refer to this guidance document for the number of days and geographic areas (*i.e.*, operating environments) specified in Table 2 and Table 6 of this appendix.

5.8 A facility owner or operator shall also identify, by contract or other approved means as described in §112.2, the availability of an oil spill removal organization(s) (as described in §112.2) capable of responding to a shoreline cleanup operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline. The volume of oil that shall, as appropriate, be planned for is calculated through the application of factors contained in Tables 2, 3, 6, and 7 of this appendix. The volume calculated from these tables is intended to assist the facility owner or operator to identify an oil spill removal organization with sufficient resources and expertise.

6.0 Determining Effective Daily Recovery Capacity for Oil Recovery Devices

6.1 Oil recovery devices identified by a facility owner or operator must be identified by the manufacturer, model, and effective daily recovery capacity. These capacities must be used to determine whether there is sufficient capacity to meet the applicable planning criteria for a small discharge, a medium discharge, and a worst case discharge to the maximum extent practicable.

6.2 To determine the effective daily recovery capacity of oil recovery devices, the formula listed in section 6.2.1 of this appendix shall be used. This formula considers potential limitations due to available daylight, weather, sea state, and percentage of emulsified oil in the recovered material. The RA may assign a lower efficiency factor to equipment listed in a response plan if it is determined that such a reduction is warranted.

6.2.1 The following formula shall be used to calculate the effective daily recovery capacity:

$$R = T \times 24 \text{ hours} \times E$$

where:

R—Effective daily recovery capacity;

T—Throughput rate in barrels per hour (nameplate capacity); and

E—20 percent efficiency factor (or lower factor as determined by the Regional Administrator).

6.2.2 For those devices in which the pump limits the throughput of liquid, throughput rate shall be calculated using the pump capacity.

6.2.3 For belt or moptype devices, the throughput rate shall be calculated using the speed of the belt or mop through the device, assumed thickness of oil adhering to or collected by the device, and surface area of the belt or mop. For purposes of this calculation, the assumed thickness of oil will be ¼ inch.

6.2.4 Facility owners or operators that include oil recovery devices whose throughput is not measurable using a pump capacity or belt/mop speed may provide information to support an alternative method of calculation. This information must be submitted following the procedures in section 6.3.2 of this appendix.

6.3 As an alternative to section 6.2 of this appendix, a facility owner or operator may submit adequate evidence that a different effective daily recovery capacity should be applied for a specific oil recovery device. Adequate evidence is actual verified performance data in discharge conditions or tests using American Society of Testing and Materials (ASTM) Standard F 631–99, F 808–83 (1999), or an equivalent test approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

6.3.1 The following formula must be used to calculate the effective daily recovery capacity under this alternative:

$$R = D \times U$$

where:

R—Effective daily recovery capacity;

D—Average Oil Recovery Rate in barrels per hour (Item 26 in F 808–83; Item 13.2.16 in F 631–99; or actual performance data); and

U—Hours per day that equipment can operate under discharge conditions. Ten hours per day must be used unless a facility owner or operator can demonstrate that the recovery operation can be sustained for longer periods.

6.3.2 A facility owner or operator submitting a response plan shall provide data that supports the effective daily recovery capacities for the oil recovery devices listed. The following is an example of these calculations:

(1) A weir skimmer identified in a response plan has a manufacturer's rated throughput at the pump of 267 gallons per minute (gpm).

267 gpm=381 barrels per hour (bph)
R=381 bph×24 hr/day×0.2=1,829 barrels per day

(2) After testing using ASTM procedures, the skimmer's oil recovery rate is determined to be 220 gpm. The facility owner or operator identifies sufficient resources available to support operations for 12 hours per day.

220 gpm=314 bph
R=314 bph×12 hr/day=3,768 barrels per day

(3) The facility owner or operator will be able to use the higher capacity if sufficient temporary oil storage capacity is available. Determination of alternative efficiency factors under section 6.2 of this appendix or the acceptability of an alternative effective daily recovery capacity under section 6.3 of this appendix will be made by the Regional Administrator as deemed appropriate.

7.0 Calculating Planning Volumes for a Worst Case Discharge—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

7.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to evaporative and natural dissipation, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline. The procedures for non-petroleum oils other than animal fats and vegetable oils are discussed in section 7.7 of this appendix.

7.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

7.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, 4, 5) or non-persistent (Group 1)]; and the facility's specific operating area. See sections 1.2.3 and 1.2.8 of this appendix for the definitions of non-persistent and persistent oils, respectively. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 2 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 2 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

7.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 3 of this appendix. Facilities that handle, store, or transport oil from different petroleum groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

7.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of an oil discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

7.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 2 of this appendix. The facility owner or operator shall identify and ensure the availability, by contract or other approved means as described in §112.2, of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1993 must make arrangements to identify and ensure the availability, by contract or other approved means as described in §112.2, for additional capacity to be under contract by 1998 or 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's total oil storage capacity.

7.3 The procedures discussed in sections 7.3.1–7.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Group 1 through Group 4 oils).

7.3.1 The following must be determined: the worst case discharge volume of oil for the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, or 4) or non-persistent (Group 1)]; and the geographic area(s) in which the facility operates (*i.e.*, operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 2 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

7.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 7.2.2 of this appendix.

7.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

7.4 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 1 through Group 4 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for Group 1 through Group 4 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.5 The following is an example of the procedure described above in sections 7.2 and 7.3 of this appendix: A facility with a 270,000 barrel (11.3 million gallons) capacity for #6 oil (specific gravity 0.96) is located in a higher volume port area. The facility is on a peninsula and has docks on both the ocean and bay sides. The facility has four aboveground oil storage tanks with a combined total capacity of 80,000 barrels (3.36 million gallons) and no secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (90,000 barrels or 3.78 million gallons) has its own secondary containment. Two 50,000 barrel (2.1 million gallon) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 100,000 barrels (4.2 million gallons) plus sufficient freeboard.

7.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground oil storage tanks without secondary containment (80,000 barrels) plus the capacity of the largest aboveground oil storage tank inside secondary containment. The resulting worst case discharge volume is 170,000 barrels or 7.14 million gallons.

7.5.2 Because the requirements for Tiers 1, 2, and 3 for inland and nearshore exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response to 10,000 barrels per day (bpd) for Tier 1, 20,000 bpd for Tier 2, and 40,000 bpd for Tier 3. Resources for the remaining 7,850 bpd for Tier 1, 9,750 bpd for Tier 2, and 7,600 bpd for Tier 3 shall be identified but need not be contracted for in advance. The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in their response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments,'' (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking water intakes that may be impacted in the event of a worst case discharge.

7.6 The procedures discussed in sections 7.6.1–7.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group 5 oils.

7.6.1 The owner or operator of a facility that handles, stores, or transports Group 5 oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in §112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored,, or transported.

7.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group 5 oils under section 7.6.1 of this appendix shall be capable of being deployed (on site) within 24 hours of discovery of a discharge to the area where the facility is operating.

7.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 5 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group 5 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.7 *Non-petroleum oils other than animal fats and vegetable oils.* The procedures described in sections 7.7.1 through 7.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

7.7.1 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must provide information in his or her plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

7.7.2 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the conditions expected in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

7.7.3 The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in §112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of non-petroleum oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

7.7.4 Response resources identified in a response plan according to section 7.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

7.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for fires of these oils. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

8.0 Determining Response Resources Required for Small Discharges—Animal Fats and Vegetable Oils

8.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge of animal fats or vegetable oils. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

8.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the marine transportation-related portion of the facility.

8.2.1 The USCG planning level that corresponds to EPA's ''small discharge'' is termed ''the average most probable discharge.'' A USCG rule found at 33 CFR 154.1020 defines ''the average most probable discharge'' as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of complexes that handle, store, or transport animal fats and vegetable oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

8.3 The response resources shall, as appropriate, include:

8.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

8.3.2 Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a small discharge or greater which is available at the facility within 2 hours of the detection of a discharge; and

8.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

9.0 Determining Response Resources Required for Medium Discharges—Animal Fats and Vegetable Oils

9.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetable oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

9.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility. Owners or operators of complexes that handle, store, or transport animal fats or vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's ''medium discharge.'' Although the USCG does not have planning requirements for medium discharges, they do have requirements (at 33 CFR 154.545) to identify equipment to contain oil resulting from an operational discharge.

9.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

9.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 9.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

9.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (59 FR 14713–22, March 29, 1994) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

9.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

9.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area:

The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

10.0 Calculating Planning Volumes for a Worst Case Discharge—Animal Fats and Vegetable Oils.

10.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to physical, chemical, and biological processes, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline or on sediments. The response planning procedures for animal fats and vegetable oils are discussed in section 10.7 of this appendix. You may use alternate response planning procedures for animal fats and vegetable oils if those procedures result in environmental protection equivalent to that provided by the procedures in section 10.7 of this appendix.

10.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

10.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A, B, C); and the facility's specific operating area. See sections 1.2.1 and 1.2.9 of this appendix for the definitions of animal fats and vegetable oils and groups thereof. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 6 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 6 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

10.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 7 of this appendix. Facilities that handle, store, or transport oil from different groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

10.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of a discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

10.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 6 of this appendix. The facility owner or operator shall identify and ensure, by contract or other approved means as described in §112.2, the availability of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1998 must make arrangements to identify and ensure, by contract or other approved means as described in §112.2, the availability of additional capacity to be under contract by 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's oil storage capacity.

10.3 The procedures discussed in sections 10.3.1 through 10.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Groups A and B oils).

10.3.1 The following must be determined: the worst case discharge volume of oil for the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A or B); and the geographic area(s) in which the facility operates (i.e., operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 6 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

10.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 10.2.2 of this appendix.

10.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

10.4 A response plan must identify response resources with fire fighting capability appropriate for the risk of fire and explosion at the facility from the discharge or threat of discharge of oil. The owner or operator of a facility that handles, stores, or transports Group A or B oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual to work with the fire department for Group A or B oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.5 The following is an example of the procedure described in sections 10.2 and 10.3 of this appendix. A facility with a 37.04 million gallon (881,904 barrel) capacity of several types of vegetable oils is located in the Inland Operating Area. The vegetable oil with the highest specific gravity stored at the facility is soybean oil (specific gravity 0.922, Group B vegetable oil). The facility has ten aboveground oil storage tanks with a combined total capacity of 18 million gallons (428,571 barrels) and without secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (3 million gallons or 71,428 barrels) has its own secondary containment. Two 2.1 million gallon (50,000 barrel) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 4.2 million gallons (100,000 barrels) plus sufficient freeboard.

10.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground vegetable oil storage tanks without secondary containment (18.0 million gallons) plus the capacity of the largest aboveground storage tank inside secondary containment (3.0 million gallons). The resulting worst case discharge is 21 million gallons or 500,000 barrels.

10.5.2 With a specific worst case discharge identified, the planning volume for on-water recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil

Operating Area: Inland

Planned percent recovered floating vegetable oil (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 20%

Emulsion factor (from Table 7): 2.0

Planning volumes for on-water recovery: 21,000,000 gallons × 0.2 × 2.0 = 8,400,000 gallons or 200,000 barrels.

Determine required resources for on-water recovery for each of the three tiers using mobilization factors (from Table 4, column Inland/Nearshore/Great Lakes)

Inland Operating Area	Tier 1	Tier 2	Tier 3
Mobilization factor by which you multiply planning volume	.15	.25	.40
Estimated Daily Recovery Capacity (bbls)	30,000	50,000	80,000

10.5.3 Because the requirements for On-Water Recovery Resources for Tiers 1, 2, and 3 for Inland Operating Area exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response of 12,500 barrels per day (bpd) for Tier 1, 25,000 bpd for Tier 2, and 50,000 bpd for Tier 3. Resources for the remaining 17,500 bpd for Tier 1, 25,000 bpd for Tier 2, and 30,000 bpd for Tier 3 shall be identified but need not be contracted for in advance.

10.5.4 With the specific worst case discharge identified, the planning volume of onshore recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil

Operating Area: Inland

Planned percent recovered floating vegetable oil from onshore (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 65%

Emulsion factor (from Table 7): 2.0

Planning volumes for shoreline recovery:

21,000,000 gallons × 0.65 × 2.0 = 27,300,000 gallons or 650,000 barrels

10.5.5 The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in the response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments," (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking water intakes that may be adversely affected in the event of a worst case discharge.

10.6 The procedures discussed in sections 10.6.1 through 10.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group C oils.

10.6.1 The owner or operator of a facility that handles, stores, or transports Group C oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in § 112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored, or transported.

10.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group C oils under section 10.6.1 of this appendix shall be capable of being deployed on scene within 24 hours of discovery of a discharge.

10.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group C oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in § 112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group C oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.7 The procedures described in sections 10.7.1 through 10.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

10.7.1 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must provide information in the response plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge of animal fats and vegetable oils to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

10.7.2 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

10.7.3. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in § 112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of animal fat or vegetable oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

10.7.4 Response resources identified in a response plan according to section 10.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

10.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for animal fat and vegetable oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

11.0 Determining the Availability of Alternative Response Methods

11.1 For chemical agents to be identified in a response plan, they must be on the NCP Product Schedule that is maintained by EPA. (Some States have a list of approved dispersants for use within State waters. Not all of these State-approved dispersants are listed on the NCP Product Schedule.)

11.2 Identification of chemical agents in the plan does not imply that their use will be authorized. Actual authorization will be governed by the provisions of the NCP and the applicable ACP.

12.0 Additional Equipment Necessary to Sustain Response Operations

12.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetables oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

12.2 A facility owner or operator shall evaluate the availability of adequate temporary storage capacity to sustain the effective daily recovery capacities from equipment identified in the plan. Because of the inefficiencies of oil spill recovery devices, response plans must identify daily storage capacity equivalent to twice the effective daily recovery capacity required on-scene. This temporary storage capacity may be reduced if a facility owner or operator can demonstrate by waste stream analysis that the efficiencies of the oil recovery devices, ability to decant waste, or the availability of alternative temporary storage or disposal locations will reduce the overall volume of oily material storage.

12.3 A facility owner or operator shall ensure that response planning includes the capability to arrange for disposal of recovered oil products. Specific disposal procedures will be addressed in the applicable ACP.

13.0 References and Availability

13.1 All materials listed in this section are part of EPA's rulemaking docket and are located in the Superfund Docket, 1235 Jefferson Davis Highway, Crystal Gateway 1, Arlington, Virginia 22202, Suite 105 (Docket Numbers SPCC–2P, SPCC–3P, and SPCC–9P). The docket is available for inspection between 9 a.m. and 4 p.m., Monday through Friday, excluding Federal holidays.

Appointments to review the docket can be made by calling 703–603–9232. Docket hours are subject to change. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services.

13.2 The docket will mail copies of materials to requestors who are outside the Washington, DC metropolitan area. Materials may be available from other sources, as noted in this section. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services. The RCRA/Superfund Hotline at 800–424–9346 may also provide additional information on where to obtain documents. To contact the RCRA/Superfund Hotline in the Washington, DC metropolitan area, dial 703–412–9810. The Telecommunications Device for the Deaf (TDD) Hotline number is 800–553–7672, or, in the Washington, DC metropolitan area, 703–412–3323.

13.3 Documents

(1) National Preparedness for Response Exercise Program (PREP). The PREP draft guidelines are available from United States Coast Guard Headquarters (G-MEP-4), 2100 Second Street, SW., Washington, DC 20593. (See 58 FR 53990–91, October 19, 1993, Notice of Availability of PREP Guidelines).

(2) ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments (published in the Federal Register by DOC/NOAA at 59 FR 14713–22, March 29, 1994.). The guidance is available in the Superfund Docket (see sections 13.1 and 13.2 of this appendix).

(3) ASTM Standards. ASTM F 715, ASTM F 989, ASTM F 631–99, ASTM F 808–83 (1999). The ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(4) Response Plans for Marine Transportation-Related Facilities, Interim Final Rule. Published by USCG, DOT at 58 FR 7330–76, February 5, 1993.

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA

Oil Recovery Devices

Operating environment	Significant wave height [1]	Sea state
Rivers and Canals	≤ 1 foot	1
Inland	≤ 3 feet	2
Great Lakes	≤ 4 feet	2–3
Ocean	≤ 6 feet	3–4

Boom

Boom property	Use			
	Rivers and canals	Inland	Great Lakes	Ocean
Significant Wave Height [1]	≤ 1	≤ 3	≤ 4	≤ 6
Sea State	1	2	2–3	3–4
Boom height—inches (draft plus freeboard)	6–18	18–42	18–42	≥42
Reserve Buoyancy to Weight Ratio	2:1	2:1	2:1	3:1 to 4:1
Total Tensile Strength—pounds	4,500	15,000–20,000.	15,000–20,000.	≥20,000
Skirt Fabric Tensile Strength—pounds	200	300	300	500
Skirt Fabric Tear Strength—pounds	100	100	100	125

[1] Oil recovery devices and boom *shall* be at least capable of operating in wave heights up to and including the values listed in Table 1 for each operating environment.

TABLE 2 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR PETROLEUM OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore
1—Non-persistent oils	80	10	10	80	20	10
2—Light crudes	40	15	45	50	50	30
3—Medium crudes and fuels	20	15	65	30	50	50
4—Heavy crudes and fuels	5	20	75	10	50	70

[1] The response resource considerations for non-petroleum oils other than animal fats and vegetable oils are outlined in section 7.7 of this appendix.

NOTE: Group 5 oils are defined in section 1.2.8 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.

TABLE 3 TO APPENDIX E—EMULSIFICATION FACTORS FOR PETROLEUM OIL GROUPS [1]

Non-Persistent Oil:	
Group 1	1.0
Persistent Oil:	
Group 2	1.8
Group 3	2.0
Group 4	1.4
Group 5 oils are defined in section 1.2.7 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.	

[1] See sections 1.2.2 and 1.2.7 of this appendix for group designations for non-persistent and persistent oils, respectively.

TABLE 4 TO APPENDIX E—ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

Operating area	Tier 1	Tier 2	Tier 3
Rivers and Canals	0.30	0.40	0.60
Inland/Nearshore Great Lakes	0.15	0.25	0.40

Note: These mobilization factors are for total resources mobilized, not incremental response resources.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA

	Tier 1	Tier 2	Tier 3
February 18, 1993:			
All except Rivers & Canals, Great Lakes	10K bbls/day	20K bbls/day	40K bbls/day.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA—Continued

	Tier 1	Tier 2	Tier 3
Great Lakes	5K bbls/day	10K bbls/day	20K bbls/day.
Rivers & Canals	1.5K bbls/day	3.0K bbls/day	6.0K bbls/day.
February 18, 1998:			
All except Rivers & Canals, Great Lakes	12.5K bbls/day	25K bbls/day	50K bbls/day.
Great Lakes	6.35K bbls/day	12.3K bbls/day	25K bbls/day.
Rivers & Canals	1.875K bbls/day	3.75K bbls/day	7.5K bbls/day.
February 18, 2003:			
All except Rivers & Canals, Great Lakes	TBD	TBD	TBD.
Great Lakes	TBD	TBD	TBD.
Rivers & Canals	TBD	TBD	TBD.

Note: The caps show cumulative overall effective daily recovery capacity, not incremental increases.
TBD=To Be Determined.

TABLE 6 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR ANIMAL FATS AND VEGETABLE OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore
Group A	40	15	45	50	20	30
Group B	20	15	65	30	20	50

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

TABLE 7 TO APPENDIX E—EMULSIFICATION FACTORS FOR ANIMAL FATS AND VEGETABLE OILS

Oil Group [1]:	
Group A	1.0
Group B	2.0

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

ATTACHMENTS TO APPENDIX E

Attachment E-1 --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) [ ]
(A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . [ ]

Step (C) Operating Area (choose one) . . . . [ ] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step(A)}}{100}$ [ ]
(E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . . [ ]
(E2)

Step (F) Emulsification Factor
(Table 3 of this appendix) . . . . [ ]
(F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II <u>On-Water Oil Recovery Capacity</u> (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III <u>Shoreline Cleanup Volume</u> (barrels) . . . .

Step (E2) x Step (F)

Part IV <u>On-Water Response Capacity By Operating Area</u>
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V <u>On-Water Amount Needed to be Identified, but not Contracted for in Advance</u> (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-1 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) — 170,000 (A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . — 4

Step (C) Operating Area (choose one) . . [X] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
10	50	70
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2)} \times \text{Step (A)}}{100}$ — 85,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3)} \times \text{Step (A)}}{100}$ — 119,000 (E2)

Step (F) Emulsification Factor
(Table 3 of this appendix) . . . . — 1.4 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
17,850	29,750	47,600
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 166,600

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
10,000	20,000	40,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
7,850	9,750	7,600
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) [ ]
(A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . [ ]

Step (C) Operating Area (choose one) . . . . [ ] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ [ ]
(E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . [ ]
(E2)

Step (F) Emulsification Factor
(Table 7 of this appendix) . . . . [ ]
(F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) . . . .

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) . . . . 500,000 (A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . . . . B

Step (C) Operating Area (choose one) [X] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
30	20	50
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ 100,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ 250,000 (E2)

Step (F) Emulsification Factor (Table 7 of this appendix) . . . . 2.0 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils (continued)

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
30,000	50,000	80,000
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 500,000

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
12,500	25,000	50,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
17,500	25,000	30,000
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

[59 FR 34111, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40806, 40807, June 30, 2000; 65 FR 47325, Aug. 2, 2000; 66 FR 47325, Aug. 2, 2000; 66 FR 35460, 35461, June 29, 2001]

APPENDIX F TO PART 112—FACILITY-SPECIFIC RESPONSE PLAN

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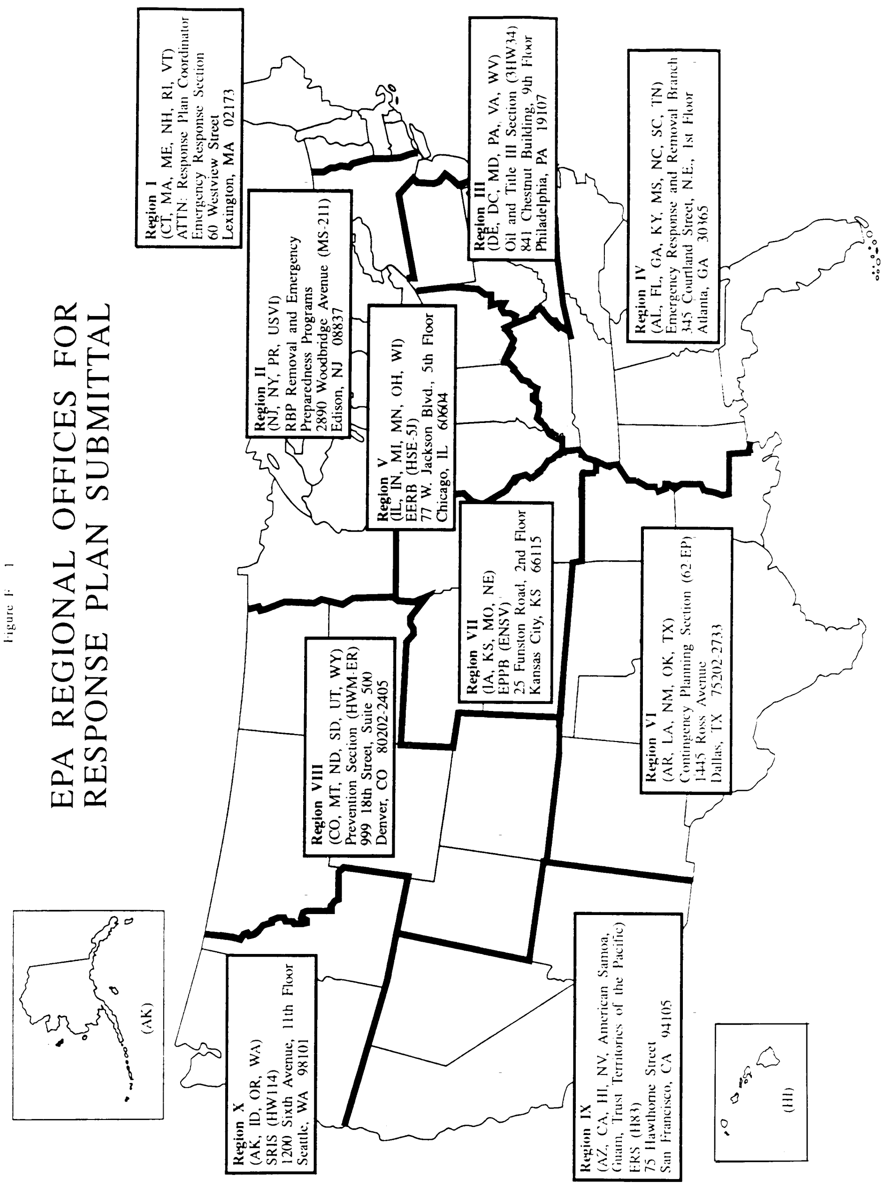
1.0 Model Facility-Specific Response Plan

(A) Owners or operators of facilities regulated under this part which pose a threat of substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines are required to prepare and submit facility-specific response plans to EPA in accordance with the provisions in this appendix. This appendix further describes the required elements in §112.20(h).

(B) Response plans must be sent to the appropriate EPA Regional office. Figure F–1 of this Appendix lists each EPA Regional office and the address where owners or operators must submit their response plans. Those facilities deemed by the Regional Administrator (RA) to pose a threat of significant and substantial harm to the environment will have their plans reviewed and approved by EPA. In certain cases, information required in the model response plan is similar to information currently maintained in the facility's Spill Prevention, Control, and Countermeasures (SPCC) Plan as required by 40 CFR 112.3. In these cases, owners or operators may reproduce the information and include a photocopy in the response plan.

(C) A complex may develop a single response plan with a set of core elements for all regulating agencies and separate sections for the non-transportation-related and transportation-related components, as described in §112.20(h). Owners or operators of large facilities that handle, store, or transport oil at more than one geographically distinct location (e.g., oil storage areas at opposite ends of a single, continuous parcel of property) shall, as appropriate, develop separate sections of the response plan for each storage area.



1.1 Emergency Response Action Plan

Several sections of the response plan shall be co-located for easy access by response personnel during an actual emergency or oil discharge. This collection of sections shall be called the Emergency Response Action Plan. The Agency intends that the Action Plan contain only as much information as is necessary to combat the discharge and be arranged so response actions are not delayed. The Action Plan may be arranged in a number of ways. For example, the sections of the Emergency Response Action Plan may be photocopies or condensed versions of the forms included in the associated sections of the response plan. Each Emergency Response Action Plan section may be tabbed for quick reference. The Action Plan shall be maintained in the front of the same binder that contains the complete response plan or it shall be contained in a separate binder. In the latter case, both binders shall be kept together so that the entire plan can be accessed by the qualified individual and appropriate spill response personnel. The Emergency Response Action Plan shall be made up of the following sections:

1. Qualified Individual Information (Section 1.2) partial
2. Emergency Notification Phone List (Section 1.3.1) partial
3. Spill Response Notification Form (Section 1.3.1) partial
4. Response Equipment List and Location (Section 1.3.2) complete
5. Response Equipment Testing and Deployment (Section 1.3.3) complete
6. Facility Response Team (Section 1.3.4) partial
7. Evacuation Plan (Section 1.3.5) condensed
8. Immediate Actions (Section 1.7.1) complete
9. Facility Diagram (Section 1.9) complete

1.2 Facility Information

The facility information form is designed to provide an overview of the site and a description of past activities at the facility. Much of the information required by this section may be obtained from the facility's existing SPCC Plan.

1.2.1 *Facility name and location:* Enter facility name and street address. Enter the address of corporate headquarters only if corporate headquarters are physically located at the facility. Include city, county, state, zip code, and phone number.

1.2.2 *Latitude and Longitude:* Enter the latitude and longitude of the facility. Include degrees, minutes, and seconds of the main entrance of the facility.

1.2.3 *Wellhead Protection Area:* Indicate if the facility is located in or drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986 (SDWA).[1] The response plan requirements in the Wellhead Protection Program are outlined by the State or Territory in which the facility resides.

1.2.4 *Owner/operator:* Write the name of the company or person operating the facility and the name of the person or company that owns the facility, if the two are different. List the address of the owner, if the two are different.

1.2.5 *Qualified Individual:* Write the name of the qualified individual for the entire facility. If more than one person is listed, each individual indicated in this section shall have full authority to implement the facility response plan. For each individual, list: name, position, home and work addresses (street addresses, not P.O. boxes), emergency phone number, and specific response training experience.

1.2.6 *Date of Oil Storage Start-up:* Enter the year which the present facility first started storing oil.

1.2.7 *Current Operation:* Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.

1.2.8 *Dates and Type of Substantial Expansion:* Include information on expansions that have occurred at the facility. Examples of such expansions include, but are not limited to: Throughput expansion, addition of a product line, change of a product line, and installation of additional oil storage capacity. The data provided shall include all facility historical information and detail the expansion of the facility. An example of substantial expansion is any material alteration of the facility which causes the owner or operator of the facility to re-evaluate and increase the response equipment necessary to adequately respond to a worst case discharge from the facility.

Date of Last Update: _____

FACILITY INFORMATION FORM

Facility Name: ___________________________
Location (Street Address): ______________
City: _____ State: _____ Zip: _____
County: _____ Phone Number: (   ) _____
Latitude: _____ Degrees _____ Minutes _____ Seconds
Longitude: _____ Degrees _____ Minutes _____ Seconds
Wellhead Protection Area: ________________
Owner: __________________________________
Owner Location (Street Address): _______
(if different from Facility Address)
City: _____ State:_____ Zip: _____
County: _____ Phone Number: (   ) _____
Operator (if not Owner): ________________
Qualified Individual(s): (attach additional sheets if more than one)
Name: __________________________________
Position: ______________________________
Work Address: ___________________________
Home Address: __________________________
Emergency Phone Number: (   ) _______

[1] A wellhead protection area is defined as the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. For further information regarding State and territory protection programs, facility owners or operators may contact the SDWA Hotline at 1–800–426–4791.

Date of Oil Storage Start-up: ______________

Current Operations: ________________________

____

____

Date(s) and Type(s) of Substantial Expansion(s): ________________________________

____

(Attach additional sheets if necessary)

1.3 Emergency Response Information

(A) The information provided in this section shall describe what will be needed in an actual emergency involving the discharge of oil or a combination of hazardous substances and oil discharge. The Emergency Response Information section of the plan must include the following components:

(1) The information provided in the Emergency Notification Phone List in section 1.3.1 identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency. This section shall include all the appropriate phone numbers for the facility. These numbers must be verified each time the plan is updated. The contact list must be accessible to all facility employees to ensure that, in case of a discharge, any employee on site could immediately notify the appropriate parties.

(2) The Spill Response Notification Form in section 1.3.1 creates a checklist of information that shall be provided to the National Response Center (NRC) and other response personnel. All information on this checklist must be known at the time of notification, or be in the process of being collected. This notification form is based on a similar form used by the NRC. Note: Do not delay spill notification to collect the information on the list.

(3) Section 1.3.2 provides a description of the facility's list of emergency response equipment and location of the response equipment. When appropriate, the amount of oil that emergency response equipment can handle and any limitations (e.g., launching sites) must be described.

(4) Section 1.3.3 provides information regarding response equipment tests and deployment drills. Response equipment deployment exercises shall be conducted to ensure that response equipment is operational and the personnel who would operate the equipment in a spill response are capable of deploying and operating it. Only a representative sample of each type of response equipment needs to be deployed and operated, as long as the remainder is properly maintained. If appropriate, testing of response equipment may be conducted while it is being deployed. Facilities without facility-owned response equipment must ensure that the oil spill removal organization that is identified in the response plan to provide this response equipment certifies that the deployment exercises have been met. Refer to the National Preparedness for Response Exercise Program (PREP) Guidelines (see Appendix E to this part, section 13, for availability), which satisfy Oil Pollution Act (OPA) response exercise requirements.

(5) Section 1.3.4 lists the facility response personnel, including those employed by the facility and those under contract to the facility for response activities, the amount of time needed for personnel to respond, their responsibility in the case of an emergency, and their level of response training. Three different forms are included in this section. The Emergency Response Personnel List shall be composed of all personnel employed by the facility whose duties involve responding to emergencies, including oil discharges, even when they are not physically present at the site. An example of this type of person would be the Building Engineer-in-Charge or Plant Fire Chief. The second form is a list of the Emergency Response Contractors (both primary and secondary) retained by the facility. Any changes in contractor status must be reflected in updates to the response plan. Evidence of contracts with response contractors shall be included in this section so that the availability of resources can be verified. The last form is the Facility Response Team List, which shall be composed of both emergency response personnel (referenced by job title/position) and emergency response contractors, included in one of the two lists described above, that will respond immediately upon discovery of an oil discharge or other emergency (i.e., the first people to respond). These are to be persons normally on the facility premises or primary response contractors. Examples of these personnel would be the Facility Hazardous Materials (HAZMAT) Spill Team 1, Facility Fire Engine Company 1, Production Supervisor, or Transfer Supervisor. Company personnel must be able to respond immediately and adequately if contractor support is not available.

(6) Section 1.3.5 lists factors that must, as appropriate, be considered when preparing an evacuation plan.

(7) Section 1.3.6 references the responsibilities of the qualified individual for the facility in the event of an emergency.

(B) The information provided in the emergency response section will aid in the assessment of the facility's ability to respond to a worst case discharge and will identify additional assistance that may be needed. In addition, the facility owner or operator may want to produce a wallet-size card containing a checklist of the immediate response and notification steps to be taken in the event of an oil discharge.

1.3.1 Notification

Date of Last Update: ____________________

EMERGENCY NOTIFICATION PHONE LIST WHOM TO NOTIFY

Reporter's Name: ____________
Date: ____________
Facility Name: ____________
Owner Name: ____________
Facility Identification Number: ____________
Date and Time of Each NRC Notification: __

Organization	Phone No.
1. National Response Center (NRC):	1–800–424–8802
2. Qualified Individual:	
Evening Phone:	
3. Company Response Team:	
Evening Phone:	
4. Federal On-Scene Coordinator (OSC) and/or Regional Response Center (RRC):	
Evening Phone(s):	
Pager Number(s):	
5. Local Response Team (Fire Dept./Cooperatives):	
6. Fire Marshall:	
Evening Phone:	
7. State Emergency Response Commission (SERC):	
Evening Phone:	
8. State Police:	
9. Local Emergency Planning Committee (LEPC):	
10. Local Water Supply System:	
Evening Phone:	
11. Weather Report:	
12. Local Television/Radio Station for Evacuation Notification:	
13. Hospitals:	

SPILL RESPONSE NOTIFICATION FORM

Reporter's Last Name: ____________
First: ____________
M.I.: ____________
Position: ____________
Phone Numbers:
Day ( ) –
Evening ( ) –
Company: ____________
Organization Type: ____________
Address: ____________
____
City: ____________
State: ____________
Zip: ____________
Were Materials Discharged? _____ (Y/N) Confidential? _____ (Y/N)
Meeting Federal Obligations to Report? _____ (Y/N) Date Called: _____
Calling for Responsible Party? _____ (Y/N) Time Called: _____

Incident Description

Source and/or Cause of Incident: ____________
____
____
____
____
Date of Incident: ____________
Time of Incident: _____ AM/PM
Incident Address/Location: ____________
____
Nearest City:_____________ State: _______ County: _______ Zip: _______
Distance from City: _____ Units of Measure: _____ Direction from City: _____
Section: _______ Township: _______ Range: _______ Borough: _______
Container Type: _____ Tank Oil Storage Capacity: _______ Units of Measure: _____
Facility Oil Storage Capacity: _______ Units of Measure: _____
Facility Latitude: _____ Degrees _____ Minutes _____ Seconds
Facility Longitude: _____ Degrees _______ Minutes _____ Seconds

Material

CHRIS Code	Discharged quantity	Unit of measure	Material Discharged in water	Quantity	Unit of measure

CHRIS Code	Discharged quantity	Unit of measure	Material Discharged in water	Quantity	Unit of measure

Response Action

Actions Taken to Correct, Control or Mitigate Incident:

____

____

____

____

Impact

Number of Injuries: _____ Number of Deaths: _____

Were there Evacuations? _____ (Y/N) Number Evacuated: _____

Was there any Damage? _____ (Y/N)

Damage in Dollars (approximate): _________

Medium Affected: ______________________

Description: __________________________

More Information about Medium: _________

____

____

Additional Information

Any information about the incident not recorded elsewhere in the report:

____

____

____

Caller Notifications

EPA? _____ (Y/N) USCG? _____ (Y/N) State? _____ (Y/N)

Other? _____ (Y/N) Describe: __________

1.3.2 Response Equipment List

Date of Last Update:_____

FACILITY RESPONSE EQUIPMENT LIST

1. Skimmers/Pumps—Operational Status: __

Type, Model, and Year: ______________

____

Type Model Year

Number: ______________________

Capacity: _______ gal./min.

Daily Effective Recovery Rate: __________

Storage Location(s): ________________

Date Fuel Last Changed: ______________

2. Boom—Operational Status: ____________

Type, Model, and Year: ______________

Type Model Year

Number: ______________________

Size (length): _______ ft.

Containment Area: _______ sq. ft.

Storage Location: ___________________

3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)

Type	Amount	Date purchased	Treatment capacity	Storage location

Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable?_____ (Y/N).

Name and State of On-Scene Coordinator (OSC) authorizing use: _____ .

Date Authorized: _____ .

4. Dispersant Dispensing Equipment—Operational Status: _____ .

Type and year	Capacity	Storage location	Response time (minutes)

5. Sorbents—Operational Status: ____
Type and Year Purchased: ____
Amount: ____
Absorption Capacity (gal.): ____
Storage Location(s): ____

6. Hand Tools—Operational Status: ____

Type and year	Quantity	Storage location

7. Communication Equipment (include operating frequency and channel and/or cellular phone numbers)—Operational Status: ____

Type and year	Quantity	Storage location/ number

8. Fire Fighting and Personnel Protective Equipment—Operational Status: ____

Type and year	Quantity	Storage location

9. Other (e.g., Heavy Equipment, Boats and Motors)—Operational Status: ____

Type and year	Quantity	Storage location

1.3.3 Response Equipment Testing/Deployment

Date of Last Update: ____

Response Equipment Testing and Deployment Drill Log

Last Inspection or Response Equipment Test Date: ____
Inspection Frequency: ____
Last Deployment Drill Date: ____
Deployment Frequency: ____
Oil Spill Removal Organization Certification (if applicable): ____

1.3.4 Personnel

Date of Last Update: ____

EMERGENCY RESPONSE PERSONNEL

Company Personnel

Name	Phone [1]	Response time	Responsibility during response action	Response training type/date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

[1] Phone number to be used when person is not on-site.

EMERGENCY RESPONSE CONTRACTORS

Date of Last Update: ________

Contractor	Phone	Response time	Contract responsibility [1]
1.			
2.			
3.			
4.			

[1] Include evidence of contracts/agreements with response contractors to ensure the availability of personnel and response equipment.

FACILITY RESPONSE TEAM

Date of Last Update:________

Team member	Response time (minutes)	Phone or pager number (day/evening)
Qualified Individual:		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/

NOTE: If the facility uses contracted help in an emergency response situation, the owner or operator must provide the contractors' names and review the contractors' capacities to provide adequate personnel and response equipment.

1.3.5 Evacuation Plans

1.3.5.1 Based on the analysis of the facility, as discussed elsewhere in the plan, a facility-wide evacuation plan shall be developed. In addition, plans to evacuate parts of the facility that are at a high risk of exposure in the event of a discharge or other release must be developed. Evacuation routes must be shown on a diagram of the facility (see section 1.9 of this appendix). When developing evacuation plans, consideration must be given to the following factors, as appropriate:

(1) Location of stored materials;

(2) Hazard imposed by discharged material;

(3) Discharge flow direction;

(4) Prevailing wind direction and speed;

(5) Water currents, tides, or wave conditions (if applicable);

(6) Arrival route of emergency response personnel and response equipment;

(7) Evacuation routes;

(8) Alternative routes of evacuation;

(9) Transportation of injured personnel to nearest emergency medical facility;

(10) Location of alarm/notification systems;

(11) The need for a centralized check-in area for evacuation validation (roll call);

(12) Selection of a mitigation command center; and

(13) Location of shelter at the facility as an alternative to evacuation.

1.3.5.2 One resource that may be helpful to owners or operators in preparing this section of the response plan is The *Handbook of Chemical Hazard Analysis Procedures* by the Federal Emergency Management Agency (FEMA), Department of Transportation (DOT), and EPA. *The Handbook of Chemical Hazard Analysis Procedures* is available from: FEMA , Publication Office, 500 C. Street, S.W., Washington, DC 20472, (202) 646–3484.

1.3.5.3 As specified in §112.20(h)(1)(vi), the facility owner or operator must reference existing community evacuation plans, as appropriate.

1.3.6 Qualified Individual's Duties

The duties of the designated qualified individual are specified in §112.20(h)(3)(ix). The qualified individual's duties must be described and be consistent with the minimum requirements in §112.20(h)(3)(ix). In addition, the qualified individual must be identified with the Facility Information in section 1.2 of the response plan.

1.4 Hazard Evaluation

This section requires the facility owner or operator to examine the facility's operations closely and to predict where discharges could occur. Hazard evaluation is a widely used industry practice that allows facility owners or operators to develop a complete understanding of potential hazards and the response actions necessary to address these hazards. *The Handbook of Chemical Hazard Analysis Procedures*, prepared by the EPA, DOT, and the FEMA and the *Hazardous Materials Emergency Planning Guide* (NRT–1), prepared by the National Response Team are good references for conducting a hazard analysis. Hazard identification and evaluation will assist facility owners or operators in planning for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future. The evaluation also may help the operator identify and correct potential sources of discharges. In addition, special hazards to workers and emergency response personnel's health and safety shall be evaluated, as well as the facility's oil spill history.

1.4.1 Hazard Identification

The Tank and Surface Impoundment (SI) forms, or their equivalent, that are part of this section must be completed according to the directions below. (''Surface Impoundment'' means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well or a seepage facility.) Similar worksheets, or their equivalent, must be developed for any other type of storage containers.

(1) List each tank at the facility with a separate and distinct identifier. Begin aboveground tank identifiers with an ''A'' and belowground tank identifiers with a ''B'', or submit multiple sheets with the aboveground tanks and belowground tanks on separate sheets.

(2) Use gallons for the maximum capacity of a tank; and use square feet for the area.

(3) Using the appropriate identifiers and the following instructions, fill in the appropriate forms:

(a) Tank or SI number—Using the aforementioned identifiers (A or B) or multiple reporting sheets, identify each tank or SI at the facility that stores oil or hazardous materials.

(b) Substance Stored—For each tank or SI identified, record the material that is stored therein. If the tank or SI is used to store more than one material, list all of the stored materials.

(c) Quantity Stored—For each material stored in each tank or SI, report the average volume of material stored on any given day.

(d) Tank Type or Surface Area/Year—For each tank, report the type of tank (e.g., floating top), and the year the tank was originally installed. If the tank has been refabricated, the year that the latest refabrication was completed must be recorded in parentheses next to the year installed. For each SI, record the surface area of the impoundment and the year it went into service.

(e) Maximum Capacity—Record the operational maximum capacity for each tank and SI. If the maximum capacity varies with the season, record the upper and lower limits.

(f) Failure/Cause—Record the cause and date of any tank or SI failure which has resulted in a loss of tank or SI contents.

(4) Using the numbers from the tank and SI forms, label a schematic drawing of the facility. This drawing shall be identical to any schematic drawings included in the SPCC Plan.

(5) Using knowledge of the facility and its operations, describe the following in writing:

(a) The loading and unloading of transportation vehicles that risk the discharge of oil or release of hazardous substances during transport processes. These operations may include loading and unloading of trucks, railroad cars, or vessels. Estimate the volume of material involved in transfer operations, if the exact volume cannot be determined.

(b) Day-to-day operations that may present a risk of discharging oil or releasing a hazardous substance. These activities include scheduled venting, piping repair or replacement, valve maintenance, transfer of tank contents from one tank to another, etc. (not including transportation-related activities). Estimate the volume of material involved in these operations, if the exact volume cannot be determined.

(c) The secondary containment volume associated with each tank and/or transfer point at the facility. The numbering scheme developed on the tables, or an equivalent system, must be used to identify each containment area. Capacities must be listed for each individual unit (tanks, slumps, drainage traps, and ponds), as well as the facility total.

(d) Normal daily throughput for the facility and any effect on potential discharge volumes that a negative or positive change in that throughput may cause.

Hazard Identification Tanks [1]

Date of Last Update: _______

Tank No.	Substance Stored (Oil and Hazardous Substance)	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause

[1] Tank = any container that stores oil.
Attach as many sheets as necessary.

Hazard Identification Surface Impoundments (SIs)

Date of Last Update: _______

SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Maximum Capacity (gallons)	Failure/Cause

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SIS)—Continued

Date of Last Update: ______

SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Maximum Capacity (gallons)	Failure/Cause

Attach as many sheets as necessary.

1.4.2 Vulnerability Analysis

The vulnerability analysis shall address the potential effects (i.e., to human health, property, or the environment) of an oil discharge. Attachment C–III to Appendix C to this part provides a method that owners or operators shall use to determine appropriate distances from the facility to fish and wildlife and sensitive environments. Owners or operators can use a comparable formula that is considered acceptable by the RA. If a comparable formula is used, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet. This analysis must be prepared for each facility and, as appropriate, must discuss the vulnerability of:

(1) Water intakes (drinking, cooling, or other);
(2) Schools;
(3) Medical facilities;
(4) Residential areas;
(5) Businesses;
(6) Wetlands or other sensitive environments;[2]
(7) Fish and wildlife;
(8) Lakes and streams;
(9) Endangered flora and fauna;
(10) Recreational areas;
(11) Transportation routes (air, land, and water);
(12) Utilities; and
(13) Other areas of economic importance (e.g., beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats.

1.4.3 Analysis of the Potential for an Oil Discharge

Each owner or operator shall analyze the probability of a discharge occurring at the facility. This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. This analysis will provide information for developing discharge scenarios for a worst case discharge and small and medium discharges and aid in the development of techniques to reduce the size and frequency of discharges. The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

1.4.4 Facility Reportable Oil Spill History

Briefly describe the facility's reportable oil spill[3] history for the entire life of the facility to the extent that such information is reasonably identifiable, including:

(1) Date of discharge(s);
(2) List of discharge causes;
(3) Material(s) discharged;
(4) Amount discharged in gallons;
(5) Amount of discharge that reached navigable waters, if applicable;
(6) Effectiveness and capacity of secondary containment;
(7) Clean-up actions taken;
(8) Steps taken to reduce possibility of recurrence;
(9) Total oil storage capacity of the tank(s) or impoundment(s) from which the material discharged;
(10) Enforcement actions;
(11) Effectiveness of monitoring equipment; and
(12) Description(s) of how each oil discharge was detected.

[2] Refer to the DOC/NOAA ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (See appendix E to this part, section 13, for availability).

[3] As described in 40 CFR part 110, reportable oil spills are those that: (a) violate applicable water quality standards, or (b) cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The information solicited in this section may be similar to requirements in 40 CFR 112.4(a). Any duplicate information required by §112.4(a) may be photocopied and inserted.

1.5 Discharge Scenarios

In this section, the owner or operator is required to provide a description of the facility's worst case discharge, as well as a small and medium discharge, as appropriate. A multi-level planning approach has been chosen because the response actions to a discharge (*i.e.*, necessary response equipment, products, and personnel) are dependent on the magnitude of the discharge. Planning for lesser discharges is necessary because the nature of the response may be qualitatively different depending on the quantity of the discharge. The facility owner or operator shall discuss the potential direction of the discharge pathway.

1.5.1 Small and Medium Discharges

1.5.1.1 To address multi-level planning requirements, the owner or operator must consider types of facility-specific discharge scenarios that may contribute to a small or medium discharge. The scenarios shall account for all the operations that take place at the facility, including but not limited to:

(1) Loading and unloading of surface transportation;
(2) Facility maintenance;
(3) Facility piping;
(4) Pumping stations and sumps;
(5) Oil storage tanks;
(6) Vehicle refueling; and
(7) Age and condition of facility and components.

1.5.1.2 The scenarios shall also consider factors that affect the response efforts required by the facility. These include but are not limited to:

(1) Size of the discharge;
(2) Proximity to downgradient wells, waterways, and drinking water intakes;
(3) Proximity to fish and wildlife and sensitive environments;
(4) Likelihood that the discharge will travel offsite (*i.e.*, topography, drainage);
(5) Location of the material discharged (*i.e.*, on a concrete pad or directly on the soil);
(6) Material discharged;
(7) Weather or aquatic conditions (*i.e.*, river flow);
(8) Available remediation equipment;
(9) Probability of a chain reaction of failures; and
(10) Direction of discharge pathway.

1.5.2 Worst Case Discharge

1.5.2.1 In this section, the owner or operator must identify the worst case discharge volume at the facility. Worksheets for production and non-production facility owners or operators to use when calculating worst case discharge are presented in Appendix D to this part. When planning for the worst case discharge response, all of the aforementioned factors listed in the small and medium discharge section of the response plan shall be addressed.

1.5.2.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In this section of the response plan, owners or operators must provide evidence that oil storage tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge volume shall be based on the combined oil storage capacity of all manifold tanks or the oil storage capacity of the largest single oil storage tank within the secondary containment area, whichever is greater. For permanently manifolded oil storage tanks that function as one storage unit, the worst case discharge shall be based on the combined oil storage capacity of all manifolded tanks or the oil storage capacity of the largest single tank within a secondary containment area, whichever is greater. For purposes of the worst case discharge calculation, permanently manifolded oil storage tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.6 Discharge Detection Systems

In this section, the facility owner or operator shall provide a detailed description of the procedures and equipment used to detect discharges. A section on discharge detection by personnel and a discussion of automated discharge detection, if applicable, shall be included for both regular operations and after hours operations. In addition, the facility owner or operator shall discuss how the reliability of any automated system will be checked and how frequently the system will be inspected.

1.6.1 Discharge Detection by Personnel

In this section, facility owners or operators shall describe the procedures and personnel that will detect any discharge of oil or release of a hazardous substance. A thorough discussion of facility inspections must be included. In addition, a description of initial response actions shall be addressed. This section shall reference section 1.3.1 of the response plan for emergency response information.

1.6.2 Automated Discharge Detection

In this section, facility owners or operators must describe any automated discharge detection equipment that the facility has in place. This section shall include a discussion of overfill alarms, secondary containment sensors, etc. A discussion of the plans to verify an automated alarm and the actions to be taken once verified must also be included.

1.7 Plan Implementation

In this section, facility owners or operators must explain in detail how to implement the facility's emergency response plan by describing response actions to be carried out under the plan to ensure the safety of the facility and to mitigate or prevent discharges described in section 1.5 of the response plan. This section shall include the identification of response resources for small, medium, and worst case discharges; disposal plans; and containment and drainage planning. A list of those personnel who would be involved in the cleanup shall be identified. Procedures that the facility will use, where appropriate or necessary, to update their plan after an oil discharge event and the time frame to update the plan must be described.

1.7.1 Response Resources for Small, Medium, and Worst Case Discharages

1.7.1.1 Once the discharge scenarios have been identified in section 1.5 of the response plan, the facility owner or operator shall identify and describe implementation of the response actions. The facility owner or operator shall demonstrate accessibility to the proper response personnel and equipment to effectively respond to all of the identified discharge scenarios. The determination and demonstration of adequate response capability are presented in Appendix E to this part. In addition, steps to expedite the cleanup of oil discharges must be discussed. At a minimum, the following items must be addressed:

(1) Emergency plans for spill response;

(2) Additional response training;

(3) Additional contracted help;

(4) Access to additional response equipment/experts; and

(5) Ability to implement the plan including response training and practice drills.

1.7.1.2A recommended form detailing immediate actions follows.

OIL SPILL RESPONSE—IMMEDIATE ACTIONS

1. Stop the product flow	Act quickly to secure pumps, close valves, etc.
2. Warn personnel	Enforce safety and security measures.
3. Shut off ignition sources.	Motors, electrical circuits, open flames, etc.
4. Initiate containment	Around the tank and/or in the water with oil boom.
5. Notify NRC	1–800–424–8802
6. Notify OSC	
7. Notify, as appropriate	

Source: FOSS, Oil Spill Response—Emergency Procedures, Revised December 3, 1992.

1.7.2 Disposal Plans

1.7.2.1 Facility owners or operators must describe how and where the facility intends to recover, reuse, decontaminate, or dispose of materials after a discharge has taken place. The appropriate permits required to transport or dispose of recovered materials according to local, State, and Federal requirements must be addressed. Materials that must be accounted for in the disposal plan, as appropriate, include:

(1) Recovered product;

(2) Contaminated soil;

(3) Contaminated equipment and materials, including drums, tank parts, valves, and shovels;

(4) Personnel protective equipment;

(5) Decontamination solutions;

(6) Adsorbents; and

(7) Spent chemicals.

1.7.2.2 These plans must be prepared in accordance with Federal (e.g., the Resource Conservation and Recovery Act [RCRA]), State, and local regulations, where applicable. A copy of the disposal plans from the facility's SPCC Plan may be inserted with this section, including any diagrams in those plans.

Material	Disposal facility	Location	RCRA permit/manifest
1.			
2.			
3.			
4.			

1.7.3 Containment and Drainage Planning

A proper plan to contain and control a discharge through drainage may limit the threat of harm to human health and the environment. This section shall describe how to contain and control a discharge through drainage, including:

(1) The available volume of containment (use the information presented in section 1.4.1 of the response plan);

(2) The route of drainage from oil storage and transfer areas;

(3) The construction materials used in drainage troughs;

(4) The type and number of valves and separators used in the drainage system;

(5) Sump pump capacities;

(6) The containment capacity of weirs and booms that might be used and their location (see section 1.3.2 of this appendix); and

(7) Other cleanup materials.

In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

NOTE: The general permit for stormwater drainage may contain additional requirements.

1.8 Self-Inspection, Drills/Exercises, and Response Training

The owner or operator must develop programs for facility response training and for drills/exercises according to the requirements of 40 CFR 112.21. Logs must be kept for facility drills/exercises, personnel response training, and spill prevention meetings. Much of the recordkeeping information required by this section is also contained in the SPCC Plan required by 40 CFR 112.3. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.1 Facility Self-Inspection

Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Duplicate information from the SPCC Plan may be photocopied and inserted in this section. The inspection checklist consists of the following items:

TANK INSPECTION CHECKLIST

1. Check tanks for leaks, specifically looking for:
   - A. drip marks;
   - B. discoloration of tanks;
   - C. puddles containing spilled or leaked material;
   - D. corrosion;
   - E. cracks; and
   - F. localized dead vegetation.
2. Check foundation for:
   - A. cracks;
   - B. discoloration;
   - C. puddles containing spilled or leaked material;
   - D. settling;
   - E. gaps between tank and foundation; and
   - F. damage caused by vegetation roots.
3. Check piping for:
   - A. droplets of stored material;
   - B. discoloration;
   - C. corrosion;
   - D. bowing of pipe between supports;
   - E. evidence of stored material seepage from valves or seals; and
   - F. localized dead vegetation.

TANK/SURFACE IMPOUNDMENT INSPECTION LOG

Inspector	Tank or SI#	Date	Comments

TANK/SURFACE IMPOUNDMENT INSPECTION LOG—Continued

Inspector	Tank or SI#	Date	Comments

1.8.1.2 Response Equipment Inspection

Using the Emergency Response Equipment List provided in section 1.3.2 of the response plan, describe each type of response equipment, checking for the following:

Response Equipment Checklist

1. Inventory (item and quantity);
2. Storage location;
3. Accessibility (time to access and respond);
4. Operational status/condition;
5. Actual use/testing (last test date and frequency of testing); and
6. Shelf life (present age, expected replacement date).

Please note any discrepancies between this list and the available response equipment.

RESPONSE EQUIPMENT INSPECTION LOG

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

RESPONSE EQUIPMENT INSPECTION LOG—Continued

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

1.8.1.3 Secondary Containment Inspection

Inspect the secondary containment (as described in sections 1.4.1 and 1.7.2 of the response plan), checking the following:

Secondary Containment Checklist

1. Dike or berm system.
   - A. Level of precipitation in dike/available capacity;
   - B. Operational status of drainage valves;
   - C. Dike or berm permeability;
   - D. Debris;
   - E. Erosion;
   - F. Permeability of the earthen floor of diked area; and
   - G. Location/status of pipes, inlets, drainage beneath tanks, etc.
2. Secondary containment
   - A. Cracks;
   - B. Discoloration;
   - C. Presence of spilled or leaked material (standing liquid);
   - D. Corrosion; and
   - E. Valve conditions.
3. Retention and drainage ponds
   - A. Erosion;
   - B. Available capacity;
   - C. Presence of spilled or leaked material;
   - D. Debris; and
   - E. Stressed vegetation.

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Similar requirements exist in 40 CFR 112.7(e). Duplicate information from the SPCC Plan may be photocopied and inserted in this section.

1.8.2 Facility Drills/Exercises

(A) CWA section 311(j)(5), as amended by OPA, requires the response plan to contain a description of facility drills/exercises. According to 40 CFR 112.21(c), the facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. Following the PREP guidelines (see Appendix E to this part, section 13, for availability) would satisfy a facility's requirements for drills/exercises under this part. Alternately, under §112.21(c), a facility owner or operator may develop a program that is not based on the PREP guidelines. Such a program is subject to approval by the Regional Administrator based on the description of the program provided in the response plan.

(B) The PREP Guidelines specify that the facility conduct internal and external drills/exercises. The internal exercises include: qualified individual notification drills, spill management team tabletop exercises, equipment deployment exercises, and unannounced exercises. External exercises include Area Exercises. Credit for an Area or Facility-specific Exercise will be given to the facility for an actual response to a discharge in the area if the plan was utilized for response to the discharge and the objectives of the Exercise were met and were properly evaluated, documented, and self-certified.

(C) Section 112.20(h)(8)(ii) requires the facility owner or operator to provide a description of the drill/exercise program to be carried out under the response plan. Qualified Individual Notification Drill and Spill Management Team Tabletop Drill logs shall be provided in sections 1.8.2.1 and 1.8.2.2, respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan. See section 1.3.3 of this appendix for Equipment Deployment Drill Logs.

1.8.2.1 Qualified Individual Notification Drill Logs

Qualified Individual Notification Drill Log

Date: ____________________
Company: ____________________
Qualified Individual(s): ____________________
Emergency Scenario: ____________________
____
____
Evaluation: ____________________
____
____
____
Changes to be Implemented: ____________________
____
____
Time Table for Implementation: ____________________
____

1.8.2.2 Spill Management Team Tabletop Exercise Logs

Spill Management Team Tabletop Exercise Log

Date: ____________________
Company: ____________________
Qualified Individual(s): ____________________
Emergency Scenario: ____________________
____
____
Evaluation: ____________________
____
____
____
Changes to be Implemented: ____________________
____
____
Time Table for Implementation: ____________________

1.8.3 Response Training

Section 112.21(a) requires facility owners or operators to develop programs for facility response training. Facility owners or operators are required by §112.20(h)(8)(iii) to provide a description of the response training program to be carried out under the response plan. A facility's training program can be based on the USCG's Training Elements for Oil Spill Response, to the extent applicable to facility operations, or another response training program acceptable to the RA. The training elements are available from the USCG Office of Response (G-MOR) at (202) 267–0518 or fax (202) 267–4085. Personnel response training logs and discharge prevention meeting logs shall be included in sections 1.8.3.1 and 1.8.3.2 of the response plan respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.3.1 Personnel Response Training Logs

PERSONNEL RESPONSE TRAINING LOG

Name	Response training/date and number of hours	Prevention training/date and number of hours

1.8.3.2 Discharge Prevention Meetings Logs

DISCHARGE PREVENTION MEETING LOG

Date: ____________________
Attendees: ____________________
____
____
____
____
____
____
____
____

Subject/issue identified	Required action	Implementation date

1.9 Diagrams

The facility-specific response plan shall include the following diagrams. Additional diagrams that would aid in the development of response plan sections may also be included.

(1) The Site Plan Diagram shall, as appropriate, include and identify:

(A) the entire facility to scale;

(B) above and below ground bulk oil storage tanks;

(C) the contents and capacities of bulk oil storage tanks;

(D) the contents and capacity of drum oil storage areas;

(E) the contents and capacities of surface impoundments;

(F) process buildings;

(G) transfer areas;

(H) secondary containment systems (location and capacity);

(I) structures where hazardous materials are stored or handled, including materials stored and capacity of storage;

(J) location of communication and emergency response equipment;

(K) location of electrical equipment which contains oil; and

(L) for complexes only, the interface(s) (i.e., valve or component) between the portion of the facility regulated by EPA and the portion(s) regulated by other Agencies. In most cases, this interface is defined as the last valve inside secondary containment before piping leaves the secondary containment area to connect to the transportation-related portion of the facility (i.e., the structure used or intended to be used to transfer oil to or from a vessel or pipeline). In the absence of secondary containment, this interface is the valve manifold adjacent to the tank nearest the transfer structure as described above. The interface may be defined differently at a specific facility if agreed to by the RA and the appropriate Federal official.

(2) The Site Drainage Plan Diagram shall, as appropriate, include:

(A) major sanitary and storm sewers, manholes, and drains;

(B) weirs and shut-off valves;

(C) surface water receiving streams;

(D) fire fighting water sources;

(E) other utilities;

(F) response personnel ingress and egress;

(G) response equipment transportation routes; and

(H) direction of discharge flow from discharge points.

(3) The Site Evacuation Plan Diagram shall, as appropriate, include:

(A) site plan diagram with evacuation route(s); and

(B) location of evacuation regrouping areas.

1.10 Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. In this section, a description of the facility security shall be provided and include, as appropriate:

(1) emergency cut-off locations (automatic or manual valves);

(2) enclosures (e.g., fencing, etc.);

(3) guards and their duties, day and night;

(4) lighting;

(5) valve and pump locks; and

(6) pipeline connection caps.

The SPCC Plan contains similar information. Duplicate information may be photocopied and inserted in this section.

2.0 Response Plan Cover Sheet

A three-page form has been developed to be completed and submitted to the RA by owners or operators who are required to prepare and submit a facility-specific response plan. The cover sheet (Attachment F–1) must accompany the response plan to provide the Agency with basic information concerning the facility. This section will describe the Response Plan Cover Sheet and provide instructions for its completion.

2.1 General Information

Owner/Operator of Facility: Enter the name of the owner of the facility (if the owner is the operator). Enter the operator of the facility if otherwise. If the owner/operator of the facility is a corporation, enter the name of the facility's principal corporate executive. Enter as much of the name as will fit in each section.

(1) *Facility Name:* Enter the proper name of the facility.

(2) *Facility Address:* Enter the street address, city, State, and zip code.

(3) *Facility Phone Number:* Enter the phone number of the facility.

(4) *Latitude and Longitude:* Enter the facility latitude and longitude in degrees, minutes, and seconds.

(5) *Dun and Bradstreet Number:* Enter the facility's Dun and Bradstreet number if available (this information may be obtained from public library resources).

(6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)

(7) *Largest Oil Storage Tank Capacity:* Enter the capacity in GALLONS of the largest aboveground oil storage tank at the facility.

(8) *Maximum Oil Storage Capacity:* Enter the total maximum capacity in GALLONS of all aboveground oil storage tanks at the facility.

(9) *Number of Oil Storage Tanks:* Enter the number of all aboveground oil storage tanks at the facility.

(10) *Worst Case Discharge Amount:* Using information from the worksheets in Appendix D, enter the amount of the worst case discharge in GALLONS.

(11) *Facility Distance to Navigable Waters:* Mark the appropriate line for the nearest distance between an opportunity for discharge (i.e., oil storage tank, piping, or flowline) and a navigable water.

2.2 Applicability of Substantial Harm Criteria

Using the flowchart provided in Attachment C–I to Appendix C to this part, mark the appropriate answer to each question. Explanations of referenced terms can be found in Appendix C to this part. If a comparable formula to the ones described in Attachment C–III to Appendix C to this part is used to calculate the planning distance, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet.

2.3 Certification

Complete this block after all other questions have been answered.

3.0 Acronyms

ACP: Area Contingency Plan
ASTM: American Society of Testing Materials
bbls: Barrels
bpd: Barrels per Day
bph: Barrels per Hour
CHRIS: Chemical Hazards Response Information System
CWA: Clean Water Act
DOI: Department of Interior
DOC: Department of Commerce
DOT: Department of Transportation
EPA: Environmental Protection Agency
FEMA: Federal Emergency Management Agency
FR: Federal Register
gal: Gallons
gpm: Gallons per Minute
HAZMAT: Hazardous Materials
LEPC: Local Emergency Planning Committee
MMS: Minerals Management Service (part of DOI)
NAICS: North American Industrial Classification System
NCP: National Oil and Hazardous Substances Pollution Contingency Plan
NOAA: National Oceanic and Atmospheric Administration (part of DOC)
NRC: National Response Center
NRT: National Response Team
OPA: Oil Pollution Act of 1990
OSC: On-Scene Coordinator
PREP: National Preparedness for Response Exercise Program
RA: Regional Administrator
RCRA: Resource Conservation and Recovery Act
RRC: Regional Response Centers
RRT: Regional Response Team
RSPA: Research and Special Programs Administration
SARA: Superfund Amendments and Reauthorization Act
SERC: State Emergency Response Commission
SDWA: Safe Drinking Water Act of 1986
SI: Surface Impoundment
SPCC: Spill Prevention, Control, and Countermeasures
USCG: United States Coast Guard

4.0 References

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Planning for Extremely Hazardous Substances.

The National Response Team. 1987. Hazardous Materials Emergency Planning Guide. Washington, DC.

The National Response Team. 1990. Oil Spill Contingency Planning, National Status: A Report to the President. Washington, DC. U.S. Government Printing Office.

Offshore Inspection and Enforcement Division. 1988. Minerals Management Service, Offshore Inspection Program: National Potential Incident of Noncompliance (PINC) List. Reston, VA.

ATTACHMENTS TO APPENDIX F

Attachment F–1—Response Plan Cover Sheet

This cover sheet will provide EPA with basic information concerning the facility. It must accompany a submitted facility response plan. Explanations and detailed instructions can be found in Appendix F. Please type or write legibly in blue or black ink. Public reporting burden for the collection of this information is estimated to vary from 1 hour to 270 hours per response in the first year, with an average of 5 hours per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate of this information, including suggestions for reducing this burden to: Chief, Information Policy Branch, Mail Code: PM–2822, U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington D.C. 20503.

GENERAL INFORMATION

Owner/Operator of Facility:

____

Facility Name: ______________________

Facility Address (street address or route):

____

____

City, State, and U.S. Zip Code:

____

Facility Phone No.: ____________________

Latitude (Degrees: North):

____

degrees, minutes, seconds

Dun & Bradstreet Number: [1]

____

Largest Aboveground Oil Storage Tank Capacity (Gallons):

____

[1] These numbers may be obtained from public library resources.

Number of Aboveground Oil Storage Tanks:

____

Longitude (Degrees: West):

____

degrees, minutes, seconds ______________

North American Industrial Classification System (NAICS) Code: [1] ______________

____

Maximum Oil Storage Capacity (Gallons): __

Worst Case Oil Discharge Amount (Gallons):

Facility Distance to Navigable Water. Mark the appropriate line. ______________

0– ¼ mile ___ ¼–½ mile ___ ½–1 mile ___ >1 mile ___

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Does the facility transfer oil over-water[2] to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ______________________________

No ______________________________

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

Yes ______________________________

No ______________________________

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 [2] (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?[3]

Yes ______________________________

No ______________________________

Does the facility have a total oil storage capacity greater than or equal to 1 million

[2] Explanations of the above-referenced terms can be found in Appendix C to this part. If a comparable formula to the ones contained in Attachment C–III is used to establish the appropriate distance to fish and wildlife and sensitive environments or public drinking water intakes, documentation of the reliability and analytical soundness of the formula must be attached to this form.

[3] For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable ACP.

gallons and is the facility located at a distance[2] (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?[2] ________________________

Yes ____________________________________

No ____________________________________

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 [2] 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 information, I believe that the submitted information is true, accurate, and complete.

Signature: ______________________________

Name (Please type or print): ______________

____

Title: __________________________________

Date: __________________________________

[59 FR 34122, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40816, June 30, 2000; 65 FR 43840, July 14, 2000; 66 FR 34561, June 29, 2001; 67 FR 47152, July 17, 2002]

PART 113—LIABILITY LIMITS FOR SMALL ONSHORE STORAGE FACILITIES

Subpart A—Oil Storage Facilities

Sec.
113.1 Purpose.
113.2 Applicability.
113.3 Definitions.
113.4 Size classes and associated liability limits for fixed onshore oil storage facilities, 1,000 barrels or less capacity.
113.5 Exclusions.
113.6 Effect on other laws.

AUTHORITY: Sec. 311(f)(2), 86 Stat. 867 (33 U.S.C. 1251 (1972)).

SOURCE: 38 FR 25440, Sept. 13, 1973, unless otherwise noted.

Subpart A—Oil Storage Facilities

§ 113.1 Purpose.

This subpart establishes size classifications and associated liability limits for small onshore oil storage facilities with fixed capacity of 1,000 barrels or less.

§ 113.2 Applicability.

This subpart applies to all onshore oil storage facilities with fixed capacity of 1,000 barrels or less. When a discharge to the waters of the United States occurs from such facilities and when removal of said discharge is performed by the United States Government pursuant to the provisions of subsection 311(c)(1) of the Act, the liability of the owner or operator and the facility will be limited to the amounts specified in § 113.4.

§ 113.3 Definitions.

As used in this subpart, the following terms shall have the meanings indicated below:

(a) *Aboveground* storage facility means a tank or other container, the bottom of which is on a plane not more than 6 inches below the surrounding surface.

(b) *Act* means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1151, *et seq.*

(c) *Barrel* means 42 United States gallons at 60 degrees Fahrenheit.

(d) *Belowground* storage facility means a tank or other container located other than as defined as ''Aboveground''.

(e) *Discharge* includes, but is not limited to any spilling, leaking, pumping, pouring, emitting, emptying or dumping.

(f) *Onshore Oil Storage Facility* means any facility (excluding motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States, other than submerged land.

(g) *On-Scene Coordinator* is the single Federal representative designated pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan and identified in approved Regional Oil and Hazardous Substances Pollution Contingency Plans.

(h) *Oil* means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

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APPENDIX C: SUMMARY OF REVISED SPCC RULE PROVISIONS

Citation	Revised Rule Provision
New Threshold Requirement §112.1(d)(2)(i) and (ii)	An owner or operator of a facility that stores more than 1,320 gallons in aboveground containers or 42,000 gallons in completely buried tanks must prepare a Plan. *Note: Completely buried USTs subject to all to the technical requirements of 40 CFR parts 280 or 281 are exempt from the threshold calculation.*
	Change from 1974 rule: The single container capacity of 660 gallons for the previous threshold requirement has been eliminated.
Underground Storage Tanks (USTs) §112.1(d)(2)(i) and 112.1(d)(4)	Completely buried storage tanks subject to all of the technical requirements under 40 CFR parts 280 or 281 and permanently closed USTs are not required to comply with SPCC provisions. *Note: The facility diagram must include completely buried tanks that are exempt from* §*112.1(d)(4).*
	Change from 1974 rule: Previously, all USTs were subject to the SPCC provisions once the facility met any of the SPCC threshold requirements.
Minimum Container Size §112.1(d)(5)	A *de minimis* container capacity of 55 gallons or more has been established to determine aboveground storage capacity. All containers with a capacity of less than 55 gallons are exempt from the rule.
	Change from 1974 rule: Previously all containers, regardless of size, were considered to be subject to SPCC provisions.
Wastewater Treatment §112.1(d)(6)	A facility or part thereof, if used exclusively for wastewater treatment, is exempt from the rule. *Note: The production, recovery, or recycling of oil is not considered wastewater treatment.*
	Change from 1974 rule: No direct counterpart in the 1974 rule.
SPCC Plan Preparation §112.1(f)	The Regional Administrator (RA) has the authority to require a facility, regardless of exemptions, to prepare an SPCC Plan. This authority will be exercised on a case-by-case basis.
	Change from 1974 rule: No direct counterpart in the 1974 rule.
New Definitions §112.2	Definitions for the terms "alteration," "breakout tank," "bulk storage container," "bunkered tank," "completely buried tank," "contiguous zone," "facility," "partially buried tank," "permanently closed," "production facility," "repair," "SPCC Plan," "storage capacity," and "wetlands" were added.
	Change from 1974 rule: The definition for "spill event" was removed but is now described as a discharge as described in 112.1(b) *Note: A "harmful discharge" is described in 40 CFR part 110.*

Citation	Revised Rule Provision
Oil-Filled Equipment §112.2	Oil-filled electrical, operating, and manufacturing equipment does not need to meet the requirements for bulk storage containers (§112.8) as this equipment is excluded from the definition of a "bulk storage container." However, this equipment does need to meet other provisions of the rule, including secondary containment as described in §112.7(c).
	Change from 1974 rule: Clarification on the application of the rule to this type of equipment.
Professional Engineer (PE) Certification §112.3(d)	In order for a facility to comply with the provisions of §112.3(d), a licensed Professional Engineer (PE) must attest to the following: i. The PE is familiar with 40 CFR part 112; ii. The PE or his agent has visited and examined the facility; iii. The Plan has been prepared in accordance with good engineering practice, including consideration of industry standards and the requirements of the rule; iv. Procedures for required inspections and testing have been established; and v. The Plan is adequate for the facility.
	Change from 1974 rule: The previous rule required a PE to attest that, through the examination of the facility and familiarity with the provisions of the rule, the Plan was prepared in accordance with good engineering practice.
Plan Location §112.3(e)(1)	The owner or operator must maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day.
	Change from 1974 rule: The rule previously required a Plan to be located at the facility if it was attended for at least eight hours per day.
Reportable Discharge Notification to EPA Regional Administrator (RA) for SPCC facilities §112.4	Whenever a facility has a discharge as described in §112.1(b) that is greater than 1,000 gallons of oil or two discharges each of more than 42 gallons of oil occurring within any 12-month period, the facility must submit certain information regarding the spill to the RA. The SPCC Plan does not need to be submitted unless requested by the RA.
	Change from 1974 rule: Previously, the SPCC Plan was submitted to the RA as part of the reporting requirement, and there was a different threshold for SPCC spill reporting. *Note: The basic oil discharge reporting requirements for 40 CFR 110 (spills reportable to the National Response Center) did not change.*
Five-Year Review Documentation §112.5(b) and 112.5(c)	The period in which an owner or operator is required to review and evaluate the SPCC Plan is now five years. The review and evaluation must be documented, and a statement must be signed stating whether or not the Plan will be amended. *Note: The review and evaluation do not require a Professional Engineer (PE) certification. However, any technical changes to the Plan do require a PE certification.*
	Change from 1974 rule: The review period was previously three years.
Alternative Formats §112.7	The Plan must be in writing, and if the Plan does not follow the sequence specified in the rule, an equivalent plan and a cross-reference must be provided. For example, the owner/operator may use an Integrated Contingency Plan (ICP) or an equivalent state plan that includes all applicable SPCC requirements with a cross-reference.
	Change from 1974 rule: No direct counterpart for alternative plan formats in the 1974 rule.

Citation	Revised Rule Provision
Spill History Previously §112.7(a)	Spill history does not need to be reported. *Note: Facility Response Plans (FRPs) are still required to include a spill history.*
	Change from 1974 rule: The previous rule required a spill history for reportable discharges, including corrective actions and preventive measures for spills occurring before the effective date of the 1974 rule. This requirement has been eliminated in the 2002 rule.
Environmental Equivalence §112.7(a)(2)	Where a facility does not conform with SPCC provisions, the owner or operator must state the reason for nonconformance and describe, in detail, alternate methods to achieve equivalent environmental protection. *Note: This waiver does not apply to any secondary containment requirements.*
	Change from 1974 rule: No direct counterpart in the 1974 rule.
Facility Diagram §112.7(a)(3)	The facility is required to prepare a facility diagram that includes the location and contents of containers, transfer stations, and connecting pipes. The facility diagram must also include exempt USTs.
	Change from 1974 rule: No direct counterpart in the 1974 rule.
Information for Use in a Discharge §112.7(a)(3)	The owner or operator must provide, in the Plan, information and procedures relating to basic spill prevention, reporting (contact list with phone numbers), and response. The specific information is listed in the rule text. *Note: This subparagraph applies to all facilities.*
	Change from 1974 rule: No direct counterpart in the 1974 rule.
Information for Use in a Discharge §112.7(a)(4) and 112.7(a)(5)	Unless the facility has submitted a response plan under §112.20, the owner or operator must provide, in the Plan, information and procedures to enable a person reporting a discharge to relate the necessary information. The plan must have an organization that will make it readily usable in an emergency. The necessary information is listed in the rule text.
	Change from 1974 rule: No direct counterpart in the 1974 rule.
Secondary Containment §112.7(c)	The entire containment system must be able to contain oil and prevent a discharge from a primary containment system from escaping the confines of the containment system before cleanup occurs.
	Change from 1974 rule: The new language clarifies the requirement in the previous rule that containment and/or diversionary structures must "prevent discharged oil from reaching a navigable water course."
Impracticability Claim/Integrity Testing §112.7(d)	When it is not practicable to install secondary containment, the owner/operator must clearly explain why, and for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping. *Note: Facilities must still prepare an oil spill contingency plan following 40 CFR part 109 and a have written commitment of resources to respond to and clean up a discharge.*
	Change from 1974 rule: The previous rule did not require integrity testing or leak testing if an impracticability claim was made for secondary containment for bulk storage containers.

Citation	Revised Rule Provision
Business Records §§112.7(e) and 112.8(c)(6)	An owner or operator may use usual and customary business records to satisfy the recordkeeping requirements for inspections and tests. Written procedures and a record of inspections and tests must be maintained for three years.
	Change from 1974 rule: Previously, the rule required maintenance of a record of inspections and tests for three years but did not allow for the use of usual and customary business records.
Employee Training §112.7(f)	Training is required for oil-handling personnel, and the revised rule supplies additional topics for this training. Discharge prevention briefings must be conducted at least once a year.
	Change from 1974 rule: The revised rule requires training only for oil-handling personnel and not for all employees. It also clarifies that briefings must be conducted once a year, instead of intervals "frequent enough to assure adequate understanding of the SPCC Plan for that facility."
Brittle Fracture Evaluation §112.7(i)	The rule requires evaluations for field-constructed aboveground storage containers undergoing repair, alteration, reconstruction, or a change in service.
	Change from 1974 rule: No direct counterpart in the 1974 rule.
Secondary Containment Onshore facilities §112.8(c)(2) Onshore production facilities §112.9(c)(2)	Onshore facilities (including production facilities) must ensure that secondary containment has sufficient freeboard to allow for precipitation. Whatever method used must be documented in the Plan. **Change from 1974 rule:** Onshore facilities were required to provide sufficient freeboard to allow for precipitation, though the previous rule did not specify that an allowance for precipitation was required for production facilities.
Integrity Testing per Industry Standards §112.8(c)(6)	Facilities must test aboveground containers for integrity on a regular schedule, and whenever material repairs are made. Testing must combine visual inspection with another non-destructive shell thickness testing technique. A list of organizations that may be helpful in the identification and explanation of industry standards is included in the rule preamble.
	Change from 1974 rule: Previously, the rule stated that integrity testing should occur periodically and did not require the combination of a visual inspection with another non-destructive shell thickness testing technique.
Cathodic Protection §112.8(d)(1)	All buried piping that is installed or replaced on or after August 16, 2002, must have protective wrapping and coating as well as cathodic protection, for all soil conditions. *Note: A facility can also satisfy the corrosion protection provisions through 40 CFR part 280 or a state program approved under 40 CFR part 281.*
	Change from 1974 rule: The previous rule required cathodic protection for buried piping if soil conditions warranted such protection. It did not allow for satisfaction of the provision through 40 CFR part 280 or a state program approved under 40 CFR part 281.
Reorganization/ Plain Language Format	Included are new sections for different types of facilities and new subparts for different types of oils in compliance with Edible Oil Regulatory Reform Act (EORRA.) The rule has been written in a plain language format to make it clearer and easier to use. Requirements for the SPCC Plan are included in §§112.1 through 112.15.

APPENDIX D: SAMPLE BULK STORAGE FACILITY SPCC PLAN

DISCLAIMER - APPENDIX D

The sample Spill Prevention, Control and Countermeasure (SPCC) Plan in Appendix D is intended to provide examples and illustrations of how a bulk storage facility could address a variety of scenarios in its SPCC Plan. The "facility" is not an actual facility, nor does it represent any actual facility or company. Rather, EPA is providing illustrative examples of the type and amount of information that is appropriate SPCC Plan language for these hypothetical situations.

Because the SPCC rule is designed to give each facility owner/operator the flexibility to tailor the facility's SPCC Plan to the facility's circumstances, this sample SPCC Plan is not a template to be adopted by a facility; doing so does not mean that the facility will be in compliance with the SPCC rule requirements. Nor is the sample plan a template that must be followed in order for the facility to be considered in compliance with the SPCC rule.

Unified Oil

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Unified Oil Company

123 A Street
Stonefield, Massachusetts 02000

May 12, 2003

Prepared by
Poppins & Associates, Inc.
Clearwater Falls, Massachusetts, 02210

Version 1.0, 11/28/2005

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K: Agency Notification Standard Report

LIST OF ACRONYMS AND ABBREVIATIONS

AST	Aboveground Storage Tank
EPA	U.S. Environmental Protection Agency
MADEP	Massachusetts Department of Environmental Protection
NPDES	National Pollutant Discharge Elimination System
PE	Professional Engineer
POTW	Publicly Owned Treatment Works
SPCC	Spill Prevention, Control, and Countermeasure
STI	Steel Tank Institute
UST	Underground Storage Tank

INTRODUCTION

Purpose

The purpose of this Spill Prevention, Control, and Countermeasure (SPCC) Plan is to describe measures implemented by Unified Oil to prevent oil discharges from occurring, and to prepare Unified Oil to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge.

This Plan has been prepared to meet the requirements of Title 40, *Code of Federal Regulations,* Part 112 (40 CFR part 112), and supercedes the earlier Plan developed to meet provisions in effect since 1974.

In addition to fulfilling requirements of 40 CFR part 112, this SPCC Plan is used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with employees, as a guide to facility inspections, and as a resource during emergency response.

Unified Oil management has determined that this facility does not pose a risk of substantial harm under 40 CFR part 112, as recorded in the "Substantial Harm Determination" included in Appendix B of this Plan.

This Plan provides guidance on key actions that Unified Oil must perform to comply with the SPCC rule:

- ❑ Complete monthly and annual site inspections as outlined in the Inspection, Tests, and Records section of this Plan (Section 3.7) using the inspection checklists included in Appendix C.
- ❑ Perform preventive maintenance of equipment, secondary containment systems, and discharge prevention systems described in this Plan as needed to keep them in proper operating conditions.
- ❑ Conduct annual employee training as outlined in the Personnel, Training, and Spill Prevention Procedures section of this Plan (Section 3.8) and document them on the log included in Appendix E.
- ❑ If either of the following occurs, submit the SPCC Plan to the EPA Region 1 Regional Administrator (RA) and the Massachusetts Department of Environmental Protection (MADEP), along with other information as detailed in Section 5.4 of this Plan:
    - ❑ The facility discharges more than 1,000 gallons of oil into or upon the navigable waters of the U.S. or adjoining shorelines in a single spill event; or

- ❑ The facility discharges oil in quantity greater than 42 gallons in each of two spill events within any 12-month period.

❑ Review the SPCC Plan at least once every five (5) years and amend it to include more effective prevention and control technology, if such technology will significantly reduce the likelihood of a spill event and has been proven effective in the field at the time of the review. Plan amendments, other than administrative changes discussed above, must be recertified by a Professional Engineer on the certification page in Section 1.2 of this Plan.

❑ Amend the SPCC Plan within six (6) months whenever where is a change in facility design, construction, operation, or maintenance that materially affects the facility's spill potential. The revised Plan must be recertified by a Professional Engineer (PE).

❑ Review the Plan on an annual basis. Update the Plan to reflect any "administrative changes" that are applicable, such as personnel changes or revisions to contact information, such as phone numbers. Administrative changes must be documented in the Plan review log of Section 1.4 of this Plan, but do not have to be certified by a PE.

Part 1: Plan Administration

1.1 Management Approval and Designated Person (40 CFR 112.7)

Unified Oil Company ("Unified Oil') is committed to preventing discharges of oil to navigable waters and the environment, and to maintaining the highest standards for spill prevention control and countermeasures through the implementation and regular review and amendment to the Plan. This SPCC Plan has the full approval of Unified Oil management. Unified Oil has committed the necessary resources to implement the measures described in this Plan.

The Facility Manager is the Designated Person Accountable for Oil Spill Prevention at the facility and has the authority to commit the necessary resources to implement this Plan.

Authorized Facility Representative (facility response coordinator): Susan Blake

Signature:	Susan Blake
Title:	Facility Manager
Date:	May 12, 2003

1.2 Professional Engineer Certification (40 CFR 112.3(d))

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the *Code of Federal Regulations* (40 CFR part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility. [40 CFR 112.3(d)]

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR part 112. This Plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan.

Julie Andrews Signature	90535055, Massachusetts Professional Engineer Registration Number
Julie Andrews Name	*Sr. Process Engineer* Title
Poppins and Associates Company	*May 12, 2003* Date

PE Seal
MA
Julie Andrews
#90535055

1.3 Location of SPCC Plan (40 CFR 112.3(e))

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC Plan is maintained at the facility in the office building. The front office is attended whenever the facility is operating, i.e., 7:00 AM to 5:00 PM, 6 days per week (closed on Sundays).

1.4 Plan Review (40 CFR 112.3 and 112.5)

1.4.1 Changes in Facility Configuration

In accordance with 40 CFR 112.5(a), Unified Oil periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge, including, but not limited to:

- commissioning of containers;
- reconstruction, replacement, or installation of piping systems;
- construction or demolition that might alter secondary containment structures; or
- changes of product or service, revisions to standard operation, modification of testing/inspection procedures, and use of new or modified industry standards or maintenance procedures.

Amendments to the Plan made to address changes of this nature are referred to as technical amendments, and must be certified by a PE. Non-technical amendments can be done (and must be documented in this section) by the facility owner and/or operator. Non-technical amendments include the following:

- change in the name or contact information (i.e., telephone numbers) of individuals responsible for the implementation of this Plan; or
- change in the name or contact information of spill response or cleanup contractors.

Unified Oil must make the needed revisions to the SPCC Plan as soon as possible, but no later than six months after the change occurs. The Plan must be implemented as soon as possible following any technical amendment, but *no later than six months* from the date of the amendment. The Facility Manager is responsible for initiating and coordinating revisions to the SPCC Plan.

1.4.2 Scheduled Plan Reviews

In accordance with 40 CFR 112.5(b), Unified Oil reviews this SPCC Plan at least once every five years (in the past, such reviews were required every three years). Revisions to the Plan, if needed, are made within six months of the five-year review. A registered Professional Engineer certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3(d). The last SPCC review occurred on *May 13, 2001*. This Plan is dated *May 12, 2003*. The next plan review is therefore scheduled to take place on or prior to *May 12, 2008*.

1.4.3 Record of Plan Reviews

Scheduled reviews and Plan amendments are recorded in the Plan Review Log (Table 1-1). This log must be completed even if no amendment is made to the Plan as a result of the review. Unless a technical or administrative change prompts an earlier review of the Plan, the next scheduled review of this Plan must occur by *May 12, 2008.*

1.5 Facilities, Procedures, Methods, or Equipment Not Yet Fully Operational (40 CFR 112.7)

Bulk storage containers at this facility have never been tested for integrity since their installation in 1989. Section 4.2.6 of this Plan describes the inspection program to be implemented by the facility following a regular schedule, including the dates by which each of the bulk storage containers must be tested.

1.6 Cross-Reference with SPCC Provisions (40 CFR 112.7)

This SPCC Plan does not follow the exact order presented in 40 CFR part 112. Section headings identify, where appropriate, the relevant section(s) of the SPCC rule. Table 1-2 presents a cross-reference of Plan sections relative to applicable parts of 40 CFR part 112.

Table 1-1: Plan Review Log

By	Date	Activity	PE certification required?	Comments
Mike Davies	5/20/1989	Prepare Plan Start of Operations	Yes	Initial SPCC Plan.
Mike Davies	5/18/1992	Scheduled review	No	No change.
Mike Davies	2/18/1994	Plan amendment	Yes*	Changes to inspection procedures, addition of a new tank, full review not conducted.
Susan Blake	5/15/1995	Scheduled review	No	Change in responsible individual and contact information.
Susan Blake	5/15/1998	Scheduled review	No	No change.
Susan Blake	5/13/2001	Scheduled review	No	No change.
Susan Blake	5/12/2003	Periodic review due to physical change	Yes*	Installation of oil/water separator

* Previous PE certifications of this Plan are summarized below.

Date	Scope	PE Name	Licensing State and Registration No.
2/18/1994	Addition of new tank and changes in inspection procedures.	Chris Ebert	MA, 90117823
5/12/2003	Installation of oil/water separator	Julie Andrews	MA, 905350055

Table 1-2: SPCC Cross-Reference

Provision	Plan Section	Page
112.3(d)	Professional Engineer Certification	3
112.3(e)	Location of SPCC Plan	4
112.5	Plan Review	4 Table 1-1
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112.7(a)(4)	5.4 Discharge Notification	32 Appendix I Appendix K
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112.8(d)	4.3 Transfer Operations, Pumping and In-Plant Processes	29
112.20(e)	Certification of Substantial Harm Determination	Appendix B

* 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.

Part 2: General Facility Information

Name:	Unified Oil Company
Address:	123 A Street Stonefield, MA 02000 (781) 555-5556
Type:	Bulk storage distribution facility
Date of Initial Operations:	May 20, 1989
Owner/Operator:	Blake and Daughters, Inc. 20 Fairview Road Stonefield, MA 02000
Primary contact:	Susan Blake, Facility Manager Work: (781) 555-5550 Cell (24 hours): (781) 555-5559

2.1 Facility Description (40 CFR 112.7(a)(3))

2.1.1 Location and Activities

Unified Oil distributes a variety of petroleum products to primarily commercial customers. The facility handles, stores, uses, and distributes petroleum products in the form of gasoline, diesel, No. 2 fuel oil, No. 6 fuel oil, and motor oil. Unified Oil receives products by common carrier via tanker truck. The products are stored in several aboveground storage tanks (ASTs) and in one underground storage tank (UST). They are delivered to customers by Unified Oil trucks or by independent contractors. The facility refuels its own two delivery trucks from an underground diesel tank connected to a fueling pump.

Hours of operation are between 7:00 AM and 5:00 PM, 6 days per week. Personnel at the facility include a facility manager, a plant operator, two truck drivers, an office administrator, and three operations and maintenance personnel.

The Site Plan and Facility Diagram included in Appendix A of this Plan show the location and layout of the facility. The Facility Diagram (Figure A-2) shows the location of oil containers, buildings, loading/unloading and transfer areas, and critical spill control structures.

Unified Oil is located in a primarily commercial area at 123 A Street in Stonefield, Massachusetts. The site is comprised of approximately 2 acres of land and is bordered to the east by A Street, to the west by Silver Creek, and to the north by ABC Plating Co.

The site includes an office building, a maintenance shop, a tanker truck loading rack and unloading area, and product storage and handling areas. Petroleum products are stored within the main bulk storage area, underground, and inside the maintenance building.

2.1.2 Oil Storage

Oil storage at the facility consists of seven tanks: four fixed ASTs, one portable tank, and two metallic USTs. In addition, the facility stores a varying stock of oil drums inside the maintenance building.

The capacities of oil containers present at the site are listed below and are also indicated on the facility diagram in Figure A-2. All containers with capacity of 55 gallons or more are included. The capacity of the oil/water separator is not included in the total storage capacity for the facility since it is used to treat storm water and as a means of secondary containment for areas of the facility with potential for an oil discharge outside dikes or berms.

Unified Oil owns two 2,000-gallon transport trucks that are used to deliver product to customers. One of the two trucks is periodically parked overnight while full; the capacity of this truck is therefore counted in the total storage capacity for this facility.

Table 2-1: Oil Containers

ID	Storage capacity	Content	Description
Fixed Storage			
1	20,000 gallons	Diesel	Aboveground vertical tank
2	20,000 gallons	Unleaded regular gasoline	Aboveground horizontal tank elevated on built-in saddles
3	20,000 gallons	Unleaded premium gasoline	Aboveground horizontal tank elevated on built-in saddles
6	1,000 gallons	No. 2 fuel oil	Underground horizontal tank
7	10,000 gallons	No. 6 fuel oil	Field-constructed aboveground vertical tank
	1,100 gallons	Motor oil	55-gallon storage drums (variable stock; up to 20 drums on site at any time)
Portable storage			
4	500 gallons	Gasoline	Double-walled aboveground horizontal tank
Vehicles			
	2,000 gallons	Fuel oil	Delivery truck*

* ***Note:*** *Unified Oil owns two delivery trucks. Both trucks are used in transportation-related activities outside the confines of the facility and generally return to the facility*

empty for parking overnight. One of the two delivery trucks is periodically parked while full. This truck is therefore counted in the storage capacity for this facility. The other truck is dedicated to scheduled deliveries and returns to the facility empty (except for minor residual). If the tanker truck returns to the facility with more than residual product, this product will be returned to inventory via the unloading station. If the facility decides to use this tanker for overnight storage, then this Plan must be modified to include the capacity of the truck and ensure compliance with other rule requirements, including secondary containment.

Total Oil Storage:	**74,600 gallons**

Other containers: (1) 1,500-gallon oil/water separator

Note: The oil/water separator is used treat facility drainage (i.e., wastewater) prior to discharge into Silver Creek under state and federal wastewater discharge permits. Discharge from the facility includes storm water collected from the paved areas outside the loading rack/unloading area containment berm and bulk storage containment dike. No external oil tanks are associated with the oil/water separator. This equipment is used to meet certain secondary containment requirements under 40 CFR part 112, as described later in this Plan. Thus, the capacity of the oil/water separator is not counted towards the facility total storage capacity.

(1) 5,000-gallon underground horizontal tank (Diesel) – Tank #5

Note: This underground storage tank is subject to, and meets, all the technical requirements of Massachusetts Underground Storage Tank Program at 527 CMR 9, as approved under 40 CFR part 281, and is therefore not counted in the storage capacity for this facility (exempted under 40 CFR 112.1(d)(4). Its location is indicated on the Facility Diagram in Appendix A. Note that the other underground storage tank (Tank #6) which contains No. 2 fuel oil for heating consumption on the premises of the facility is not subject to certain technical requirements under 40 CFR part 280 or a program approved under part 281, in particular corrosion protection, and is therefore included in the storage capacity for this facility (and is SPCC-regulated), as described above.

2.2 Evaluation of Discharge Potential

2.2.1 Distance to Navigable Waters and Adjoining Shorelines and Flow Paths

The facility is located on relatively level terrain. Drainage generally flows in the direction of Silver Creek, which runs immediately along the southwest side of the site. Silver Creek flows north to the Blackpool River approximately 1.5 miles from the facility. Spill trajectories are indicated on the facility diagram. Storm drains are located along A Street at the northeast end of the site. They discharge to Silver Creek.

Approximately three-quarters of the facility's ground surface area is paved with asphalt. The remainder consists of compacted gravel, grass, and low-lying vegetation.

2.2.2 Discharge History

Table 2-1 summarizes the facility's discharge history.

Table 2-2: Oil Discharge History

Description of Discharge	Corrective Actions Taken	Plan for Preventing Recurrence
On 3/23/2003, a leaking valve on a delivery truck discharged 50 gallons of diesel oil onto the ground during a rain event, allowing approximately 10 gallons to enter Silver Creek.	A boom was placed into Silver Creek immediately upon discovery. Approximately 35 gallons of oil were recovered from Silver creek and the facility ground.	An oil/water separator was installed and the facility drainage was designed to flow into the separator.

PART 3: Discharge Prevention - General SPCC Provisions

The following measures are implemented to prevent oil discharges during the handling, use, or transfer of oil products at the facility. Oil-handling employees have received training in the proper implementation of these measures.

3.1 Compliance with Applicable Requirements (40 CFR 112.7(a)(2))

This facility uses an oil/water separator as part of its drainage system to contain oil discharged in certain areas of the facility (i.e., overfills, and the loading/unloading area associated with Tank #4). Because Tank #4 does not meet the specifications provided in EPA's memorandum concerning its policy on double-walled tanks, general containment must be provided to address overfills. The separator provides environmental protection equivalent to the requirements under 112.8(b)(3) to use ponds, lagoons, or catchment basins to retain oil at the facility in the event of an uncontrolled discharge. As described in Section 3.5 of this Plan, the operational and emergency oil storage capacity of the oil/water separator is sufficient to handle the quantity of oil expected to be discharged in undiked areas from tank overfills or transfer operations.

Non-destructive integrity evaluation is not performed on Tank #4 (500-gallon portable storage tank) or the 55-gallon storage drums. Tank #4 has a double-wall construction and is elevated off the ground. The tank is inspected regularly and following a regular schedule in accordance with the Steel Tank Institute (STI) SP-001 tank inspection standard as described in this Plan. Any leakage from the primary container would be detected through monitoring of the interstitial space performed on a monthly basis. Any leakage from the secondary shell would be detected visually during scheduled visual inspections by facility personnel. Storage drums are elevated on spill pallets and have all sides visible, and any leak would be readily detected by facility personnel before they can cause a discharge to navigable waters or adjoining shorelines. Corrosion poses minimal risk of failure since drums are single-use and remain on site for a relatively short period of time (less than one year). The drum storage area is inspected monthly. This is in accordance with accepted industry practice for drum storage and provides an effective means of verifying container integrity, as noted by EPA in the preamble to the SPCC rule at 67 FR 47120.

3.2 Facility Layout Diagram (40 CFR 112.7(a)(3))

Figure A-1 in Appendix A shows the general location of the facility on a U.S. Geological Survey topographic map. Figure A-2 in Appendix A presents a layout of the facility and the location of storage tanks and drums. The diagram also shows the location of storm water drain inlets and the direction of surface water runoff. As required under 40 CFR 112.7(a)(3), the facility diagram indicates the location and content of ASTs, USTs, and transfer stations and connecting piping.

3.3 Spill Reporting (40 CFR 112.7(a)(4))

The discharge notification form included in Appendix I will be completed upon immediate detection of a discharge and prior to reporting a spill to the proper notification contacts.

3.4 Potential Discharge Volumes and Direction of Flow (40 CFR 112.7(b))

Table 3-1 presents expected volume, discharge rate, general direction of flow in the event of equipment failure, and means of secondary containment for different parts of the facility where oil is stored, used, or handled.

Table 3-1: Potential Discharge Volumes and Direction of Flow

Potential Event	Maximum volume released (gallons)	Maximum discharge rate	Direction of Flow	Secondary Containment
Bulk Storage Area (Aboveground Storage Tanks #1, 2, 3, or 7)				
Failure of aboveground tank (collapse or puncture below product level)	20,000	Gradual to instantaneous	SW to Silver Creek	Concrete dike
Tank overfill	1 to 120	60 gal/min	SW to Silver Creek	Concrete dike
Pipe failure	20,000	240 gal/min	SW to Silver Creek	Concrete dike
Leaking pipe or valve packing	600	1 gal/min	SW to Silver Creek	Concrete dike
Leaking heating coil (Tank #7)	10,000	1 gal/min	SW to Silver Creek	Concrete dike
Loading Rack/Unloading Area				
Tank truck leak or failure inside the rollover berm	1 to 2,000	Gradual to instantaneous	SW to Silver Creek	Rollover berm, on to oil/water separator
Tank truck leak or failure outside the rollover berm	1 to 2,000	Gradual to instantaneous	SW to Silver Creek	Rollover berm, on to oil/water separator
Hose leak during truck loading	1 to 300	60 gal/min	SW to Silver Creek	Rollover berm
Fuel Dispensing Areas				
Tank #4 and diesel dispenser hose/ connections leak	1 to 150	30 gal/minute	SW to Silver Creek.	Land-based spill response capability (spill kit) and oil/water separator
Maintenance Building				
Leak or failure of drum	1 to 55	Gradual to instantaneous	SW to Silver Creek.	Spill pallets, oil/water separator
Other Areas				
Complete failure of portable tank (Tank #4)	500	Gradual to instantaneous	SW to Silver Creek.	Secondary shell, oil/water separator
Leaking portable tank or overfills (Tank #4)	1 to 100	3 gal/min	SW to Silver Creek.	Secondary shell, oil/water separator

Potential Event	Maximum volume released (gallons)	Maximum discharge rate	Direction of Flow	Secondary Containment
Leak during transfer to heating fuel UST (Tank # 6)	1 to 120	60 gal/min	SW to Silver Creek.	Oil/water separator
Oil/water separator malfunction	1 to 300	1 gal/min	SW to Silver Creek.	

3.5 Containment and Diversionary Structures (40 CFR 112.7(c))

Methods of secondary containment at this facility include a combination of structures (e.g., dike, berm, built-in secondary containment), drainage systems (e.g., oil/water separator), and land-based spill response (e.g., drain covers, sorbents) to prevent oil from reaching navigable waters and adjoining shorelines:

- For bulk storage containers (refer to Section 4.2.2 of this Plan):
    - **Dike.** A concrete dike enclosure is provided around fixed aboveground storage tanks, as described in Section 4.2.2 of this Plan.
    - **Double-wall tank construction.** Tank #6 (UST), and the 500-gallon portable storage tank (Tank #4) both have double-wall design with a secondary shell designed to contain 110 percent of the inner shell capacity. The portable tank is generally located near the entrance to the maintenance building; however, it may be used elsewhere on site. It is used to refuel various small pieces of equipment (each less than 55-gallon capacity) such as trucks and compressors, that may be deployed at different areas on the site.
    - **Spill pallets.** Each spill pallet has a capacity of 75 gallons, which can effectively contain the volume of any single 55-gallon drum. Drums are also stored inside the maintenance building and are not exposed to precipitation. The floor of the maintenance building and lower 24 inches of the outside walls are constructed of poured concrete that would restrict the flow of oil outside the building. The floor has two floor drains; the drain closest to the drum storage area is located 18 feet away. Floor drains flow into the oil/water separator, which is capable of containing any oil discharged from a 55-gallon drum.
- At the loading rack and unloading area (refer to Section 3.10 of this Plan):
    - **Rollover berm.** The loading rack/unloading area is surrounded by a 4-inch rollover berm that provides sufficient containment for the largest compartment of the tank truck loading or unloading at the facility (2,000 gallons), and an additional 4 inches of freeboard for precipitation.

- In transfer areas and other parts of the facility where a discharge could occur:

  - **Drip pans.** Fill ports for all ASTs are equipped with drip pans to contain small leaks from the piping/hose connections.

  - **Sorbent material.** Spill cleanup kits that include absorbent material, booms, and other portable barriers are located inside the maintenance building near the drummed oil storage area and in an outside shed located near the loading rack/unloading area, as shown on the Facility Diagram in Appendix A. The spill kits are located within close proximity of the oil product storage and handling areas for rapid deployment should a spill occur. Sorbent material, booms, and other portable barriers are stored in the shed next to the loading rack/unloading area to allow for quick deployment in the event of a discharge during loading/unloading activities or any other accidental discharge outside the dike or loading rack/unloading area, such as from tank vehicles entering/leaving the facility or spills associated with the fuel dispenser. The response equipment inventory for the facility is listed in Appendix J of this Plan. The inventory is checked monthly to ensure that used material is replenished.

  - **Drainage system.** The facility surface drainage is engineered to direct oil that may be discharged outside of engineered containment structures such as dikes or berms into the oil/water separator.

  - **Oil/water separator.** The oil/water separator is designed to separate and retain oil at the facility. The oil/water separator has a total capacity for oil/water mixture of 1,500 gallons and a design flow rate of 150 gallons per minute. The separator outlet valve can be closed in the event of a large discharge (greater than 300 gallons) to provide additional emergency containment of up to 1,200 gallons. The maximum amount of oil potentially discharged outside the diked or bermed areas is estimated at roughly 2,000 gallons (from the complete failure of an on-site tanker truck). A spill of this volume outside the diked or bermed areas will be primarily contained by deploying sorbent material and other portable spill barriers upon discovery of the spill, and additional oil containment capacity will be provided by the oil/water separator. The operating oil storage capacity is 300 gallons. Best Management Practices are used to minimize the amount of solids and oil that flow into the oil/water separator. Facility personnel are instructed to avoid and address small spills using sorbents to minimize runoff of oil into the oil/water separator. The oil/water separator is inspected monthly as part of the scheduled inspection to check the level of water within the separator and measure the depth of bottom sludges and floating oils. Floating oil is removed by a licensed waste collector when it reaches a thickness of 2 inches.

3.6 Practicability of Secondary Containment (40 CFR 112.7(d))

Unified Oil management has determined that secondary containment is practicable at this facility.

3.7 Inspections, Tests, and Records (40 CFR 112.7(e))

As required by the SPCC rule, Unified Oil performs the inspections, tests, and evaluations listed in the following table. Table 3-2 summarizes the various types of inspections and tests performed at the facility. The inspections and tests are described later in this section, and in the respective sections that describe different parts of the facility (e.g., Section 4.2.6 for bulk storage containers).

Table 3-2: Inspection and Testing Program

Facility Component	Action	Frequency/Circumstances
Aboveground container	Test container integrity. Combine visual inspection with another testing technique (non-destructive shell testing). Inspect outside of container for signs of deterioration and discharges.	Following a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Container supports and foundation	Inspect container's supports and foundations.	Following a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Liquid level sensing devices (overfill)	Test for proper operation.	Monthly
Diked area	Inspect for signs of deterioration, discharges, or accumulation of oil inside diked areas.	Monthly
	Visually inspect content for presence of oil.	Prior to draining
Lowermost drain and all outlets of tank truck	Visually inspect.	Prior to filling and departure
Effluent treatment facilities	Detect possible system upsets that could cause a discharge.	Daily, monthly
All aboveground valves, piping, and appurtenances	Assess general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces.	Monthly

Facility Component	Action	Frequency/Circumstances
Buried metallic storage tank	Leak test.	Annually
Buried piping	Inspect for deterioration.	Whenever a section of buried line is exposed for any reason.
	Integrity and leak testing.	At the time of installation, modification, construction, relocation, or replacement.

3.7.1 Daily Inspection

A Unified Oil employee performs a complete walk-through of the facility each day. This daily visual inspection involves: (1) looking for tank/piping damage or leakage, stained or discolored soils, or excessive accumulation of water in diked and bermed areas; (2) observing the effluent from the oil/water separator; and (3) verifying that the dike drain valve is securely closed.

3.7.2 Monthly Inspection

The checklist provided in Appendix C is used for monthly inspections by Unified Oil personnel. The monthly inspections cover the following key elements:

- ❑ Observing the exterior of aboveground storage tanks, pipes, and other equipment for signs of deterioration, leaks, corrosion, and thinning.
- ❑ Observing the exterior of portable containers for signs of deterioration or leaks.
- ❑ Observing tank foundations and supports for signs of instability or excessive settlement.
- ❑ Observing the tank fill and discharge pipes for signs of poor connection that could cause a discharge, and tank vent for obstructions and proper operation.
- ❑ Verifying the proper functioning of overfill prevention systems.
- ❑ Checking the inventory of discharge response equipment and restocking as needed.
- ❑ Observing the effluent and measuring the quantity of accumulated oil within the oil/water separator.

All problems regarding tanks, piping, containment, or response equipment must immediately be reported to the Facility Manager. Visible oil leaks from tank walls, piping, or other components must be repaired as soon as possible to prevent a larger spill or a discharge to navigable waters or adjoining shorelines. Pooled oil is removed immediately upon discovery.

Written monthly inspection records are signed by the Facility Manager and maintained with this SPCC Plan for a period of three years.

3.7.3 Annual Inspection

Facility personnel perform a more thorough inspection of facility equipment on an annual basis. This annual inspection complements the monthly inspection described above and is performed in June of each year using the checklist provided in Appendix C of this Plan.

The annual inspection is preferably performed after a large storm event in order to verify the imperviousness and/or proper functioning of drainage control systems such as the dike, rollover berm, control valves, and the oil/water separator.

Written annual inspection records are signed by the Facility Manager and maintained with this SPCC Plan for a period of three years.

3.7.4 Periodic Integrity Testing

In addition to the above monthly and annual inspections by facility personnel, Tanks #1, 2, 3, 4, and 7 are periodically evaluated by an outside certified tank inspector following the Steel Tank Institute (STI) *Standard for the Inspection of Aboveground Storage Tanks*, SP-001, 2005 version, as described in Section 4.2.6 of this Plan.

3.8 Personnel, Training, and Discharge Prevention Procedures (40 CFR 112.7(f))

The Facility Manager is the facility designee and is responsible for oil discharge prevention, control, and response preparedness activities at this facility.

Unified Oil management has instructed oil-handling facility personnel in the operation and maintenance of oil pollution prevention equipment, discharge procedure protocols, applicable pollution control laws, rules and regulations, general facility operations, and the content of this SPCC Plan. Any new facility personnel with oil-handling responsibilities are provided with this same training prior to being involved in any oil operation.

Annual discharge prevention briefings are held by the Facility Manager for all facility personnel involved in oil operations. The briefings are aimed at ensuring continued understanding and adherence to the discharge prevention procedures presented in the SPCC Plan. The briefings also highlight and describe known discharge events or failures, malfunctioning components, and recently implemented precautionary measures and best practices. Facility operators and other personnel will have the opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

A simulation of an on-site vehicular discharge has been conducted, and future training exercises will be periodically held to prepare for possible discharge responses.

Records of the briefings and discharge prevention training are kept on the form shown in Appendix E and maintained with this SPCC Plan for a period of three years.

3.9 Security (40 CFR 112.7(g))

The facility is surrounded by 8-ft tall steel security fencing. The fence encircles the entire footprint of the facility. The single entrance gate is locked when the facility is unattended.

All drain valves for containment areas are locked in the closed position to prevent unauthorized opening. Water draw valves on the 20,000-gallon storage tanks are maintained in the closed position to prevent unauthorized opening via locks. Keys for all locked valves are kept in the front office.

Two area lights illuminate the loading/unloading and storage areas. Additional motion-activated lights are placed in other areas of the facility. The lights are placed to allow for the discovery of discharges and to deter acts of vandalism.

The electrical starter controls for the oil pumps, including the fuel dispenser, are located in a closet inside the maintenance shop. The closet is locked when the pumps are not in use. The maintenance shop is locked when the facility is unattended.

The facility securely caps or blank-flanges the loading/unloading connections of facility piping when not in service or when in standby service for an extended period of time, or when piping is emptied of liquid content either by draining or by inert gas pressure.

3.10 Tank Truck Loading/Unloading Rack Requirements (40 CFR 112.7(h))

The potential for discharges during tank truck loading and unloading operations is of particular concern at this facility. Unified Oil management is committed to ensuring the safe transfer of material to and from storage tanks. The following measures are implemented to prevent oil discharges during tank truck loading and unloading operations.

3.10.1 Secondary Containment (40 CFR 112.7(h)(1))

The facility has both a loading rack (for loading moderate capacity oil delivery tanker trucks) and an unloading area (where product is unloaded from large capacity tanker truck to the facility bulk storage tanks).

The loading rack and unloading area are co-located and are used by outside suppliers making deliveries to the facility and to load Unified Oil delivery trucks.

The tank truck loading rack/unloading area is surrounded with a 4-inch rollover asphalt berm that provides secondary containment in the event of a discharge during transfer operations. The secondary containment berm is designed to address the more stringent rack containment requirements of 40 CFR 112.7(h), which requires that the berm be sufficient to contain the capacity of the largest compartment, plus freeboard for precipitation. The curbed area provides a catchment capacity of 2,500 gallons, which is capable of containing the largest compartment of the petroleum suppliers truck making deliveries at this facility (maximum 2,000 gallons), and is also capable of containing the capacity of Unified Oil's delivery trucks, which each have a total capacity of 2,000 gallons.

To minimize direct exposure to rain, and facilitate the cleanup of small spills that may occur during loading/unloading operations, the area is partially covered by a roof.

The area is graded to direct the flow of oil or water away from the vehicle, and the low point of the curbed area is fitted with a gate valve that is normally kept closed and locked. The key for that lock is kept in the main office. The berm is drained by Unified personnel after verifying that the retained water is free of oil. The accumulated water is released to the oil/water separator. The drain valve is closed and locked following drainage.

Although delivery trucks are usually empty while at the site for extended periods of time, Unified Oil periodically parks one of its two delivery trucks while full overnight. If a delivery truck is parked overnight or for an extended period of time while it still contains fuel, it is parked inside the loading rack/unloading area containment berm. As discussed above, the berm provides sufficient containment capacity for the truck volume, plus sufficient freeboard for 4 inches of precipitation.

3.10.2 Loading/Unloading Procedures (40 CFR 112.7(h)(2) and (3))

All suppliers must meet the minimum requirements and regulations for tank truck loading/unloading established by the U.S. Department of Transportation. Unified Oil ensures that the vendor understands the site layout, knows the protocol for entering the facility and unloading product, and has the necessary equipment to respond to a discharge from the vehicle or fuel delivery hose.

The Facility Manager or his/her designee supervises oil deliveries for all new suppliers, and periodically observes deliveries for existing, approved suppliers.

All loading and unloading of tank vehicles takes place only in the designated loading rack/unloading area.

Vehicle filling operations are performed by facility personnel trained in proper discharge prevention procedures. The truck driver or facility personnel remain with the vehicle at all times while fuel is being transferred. Transfer operations are performed according to the minimum procedures outlined in Table 3-3. This table is also posted next to the loading/unloading point.

Table 3-3: Fuel Transfer Procedures

Stage	Tasks
Prior to loading/ unloading	❏ Visually check all hoses for leaks and wet spots. ❏ Verify that sufficient volume (ullage) is available in the storage tank or truck. ❏ Lock in the closed position all drainage valves of the secondary containment structure. ❏ Secure the tank vehicle with wheel chocks and interlocks. ❏ Ensure that the vehicle's parking brakes are set. ❏ Verify proper alignment of valves and proper functioning of the pumping system. ❏ If filling a tank truck, inspect the lowermost drain and all outlets. ❏ Establish adequate bonding/grounding prior to connecting to the fuel transfer point. ❏ Turn off cell phone.
During loading/ unloading	❏ Driver must stay with the vehicle at all times during loading/unloading activities. ❏ Periodically inspect all systems, hoses and connections. ❏ When loading, keep internal and external valves on the receiving tank open along with the pressure relief valves. ❏ When making a connection, shut off the vehicle engine. When transferring Class 3 materials, shut off the vehicle engine unless it is used to operate a pump. ❏ Maintain communication with the pumping and receiving stations. ❏ Monitor the liquid level in the receiving tank to prevent overflow. ❏ Monitor flow meters to determine rate of flow. ❏ When topping off the tank, reduce flow rate to prevent overflow.
After loading/ unloading	❏ Make sure the transfer operation is completed. ❏ Close all tank and loading valves before disconnecting. ❏ Securely close all vehicle internal, external, and dome cover valves before disconnecting. ❏ Secure all hatches. ❏ Disconnect grounding/bonding wires. ❏ Make sure the hoses are drained to remove the remaining oil before moving them away from the connection. Use a drip pan. ❏ Cap the end of the hose and other connecting devices before moving them to prevent uncontrolled leakage. ❏ Remove wheel chocks and interlocks. ❏ Inspect the lowermost drain and all outlets on tank truck prior to departure. If necessary, tighten, adjust, or replace caps, valves, or other equipment to prevent oil leaking while in transit.

3.11 Brittle Fracture Evaluation (40 CFR 112.7(i))

The only field-constructed tank at the facility is Tank #7. All other tanks were shop-built.

The shell thickness of Tank #7 is less than one-half inch. As discussed in the American Petroleum Institute (API) Standard 653 *Tank Inspection, Repair, Alteration, and Reconstruction* (API-653), brittle fracture is not a concern for tanks that have a shell thickness of less than one-half inch. This is the extent of the brittle fracture evaluation for this tank.

Nonetheless, in the event that Tank #7 undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure, the container will be evaluated for risk of discharge or failure, following API-653 or an equivalent approach, and corrective action will be taken as necessary.

3.12 Conformance with State and Local Applicable Requirements (40 CFR 112.7(j))

All bulk storage tanks at this facility are registered with the state and local authorities (Stonefield Fire Department) and have current certificates of registration and special use permits required by the local fire code.

Both USTs at the facility (Tanks #5 and 6) meet all requirements of Massachusetts UST regulation, including cathodic protection, double-wall construction, and monitoring systems, although Tank #6 is not subject to these requirements.

Treated storm water runoff is discharged to Silver Creek as permitted under NPDES permit #MA0001990. The maximum allowable daily oil/grease concentration is 15 mg/L. Grab samples are taken each quarter, following the monitoring requirements specified in the NPDES permit.

PART 4: Discharge Prevention – SPCC Provisions for Onshore Facilities (Excluding Production Facilities)

4.1 Facility Drainage (40 CFR 112.8(b))

Drainage from the concrete dike surrounding tanks 1, 2, and 3 is restrained by a manually-operated gate valve to prevent a discharge from entering the facility drainage system. The gate valve is normally sealed closed, except when draining the secondary containment structure. The content of the secondary containment dike is inspected by facility personnel prior to draining to ensure that only oil-free water is allowed to enter the facility storm water drainage system. The bypass valve is opened and resealed under direct personnel supervision. Drainage events are recorded in the log included in Appendix D to this SPCC Plan.

Any potential discharge from ASTs will be restrained by secondary containment structures. Discharges occurring during loading/unloading operations will be restrained by the rollover berm. The facility includes a drainage system and an oil/water separator, which are used to as containment for spill sources outside the main berm areas (fuel dispensing, overfills of 500-gallon AST (Tank#4), and transfers associated with the heating oil tank). The facility is equipped with an oil/water separator engineered to retain oil at the facility. This separator provides environmental protection equivalent to ponds, lagoons, or catchments basins required under 40 CFR 112.8(b)(3) and (4), as allowed in 40 CFR 112.7(a)(2). Discharges outside the containment areas, such as those occurring in the fuel dispensing area or while unloading heating oil, will flow by gravity into the drainage collection area and into the oil/water separator where oil will be retained until it can be pumped out.

4.2 Bulk Storage Containers (40 CFR 112.8(c))

Table 4-1 summarizes the construction, volume, and content of bulk storage containers at Unified Oil facility.

Table 4-1: List of Oil Containers

Tank	Location	Type (Construction Standard)	Capacity (gallons)	Content	Discharge Prevention & Containment
#1	Bulk Storage Area	AST vertical (UL142)	20,000	Diesel	Concrete dike. Liquid level gauge.
#2	Bulk Storage Area	AST horizontal (UL142)	20,000	Premium unleaded gasoline	Concrete dike. Liquid level gauge.
#3	Bulk Storage Area	AST horizontal (UL142)	20,000	Regular unleaded gasoline	Concrete dike. Liquid level gauge.
#4	Varies	AST dual wall, portable tank (UL142)	500	Regular unleaded gasoline	Double-wall. Liquid level gauge and interstitial monitoring system.
#5	Fuel Dispensing Area	UST dual wall (STI P3)	5,000	Diesel	Double-wall. Liquid level gauge, overfill protection system, and interstitial monitoring.
#6	Outside Office Building	UST dual wall (STI P3)	1,000	No. 2 Fuel Oil	Double-wall. Liquid level gauge, overfill protection system, and interstitial monitoring.
#7	Bulk Storage Area	AST vertical (field-erected). Heated during winter months (internal coils)	10,000	No. 6 Fuel Oil	Concrete dike. Liquid level gauge.
	Inside Maintenance Building	Steel drums	55	Motor oil and used oil	Spill pallets with built-in containment capacity. Building also serves as containment since floor drains flow into oil/water separator

4.2.1 Construction (40 CFR 112.8(c)(1))

All oil tanks used at this facility are constructed of steel, in accordance with industry specifications as described above. The design and construction of all bulk storage containers are compatible with the characteristics of the oil product they contain, and with temperature and pressure conditions.

Piping between fixed aboveground bulk storage tanks is made of steel and placed aboveground on appropriate supports designed to minimize erosion and stress.

4.2.2 Secondary Containment (40 CFR 112.8(c)(2))

A dike is provided around Tanks #1, 2, 3, and 7. Tanks #1, 2, and 3 each have a 20,000-gallon capacity. Tank #7 has a 10,000-gallon capacity. The dike has a total containment capacity of 27,316 gallons to allow sufficient volume for the largest tank and freeboard for precipitation. The freeboard is sufficient to contain a 4-inch rainfall corresponding to a 25-year, 24-hour storm event for this region of Massachusetts, as documented in Appendix F of this Plan. The floor and walls of the containment dike are constructed of poured concrete reinforced with steel. The concrete dike was built under the supervision of a structural engineer and in conformance with his specifications to be impervious to oil for a period of 72 hours. The facility is unattended for a maximum of 40 hours (Saturday evening through Monday morning) and therefore any spill into the diked area would be detected before it could escape the diked area. The surface of the concrete floor, the inside and outside of the walls, and the interface of the floor and walls, are visually inspected during the monthly facility inspection to detect any crack, signs of heaving or settlement, or other structural damage that could affect the ability of the dike to contain oil. Any damage is promptly corrected to prevent migration of oil into the ground, or out of the dike.

The 500-gallon portable AST tank is of double-wall construction and provides intrinsic secondary containment for 110 percent of the tank capacity. Since the secondary containment is not open to precipitation, this volume is sufficient to fully contain the product in the event of a leak from the primary container. The interstitial space between the primary and secondary containers is inspected on a monthly basis to detect any leak of product from the primary container. The container, however, is not equipped to prevent overfills as required by EPA policy in its memorandum on double-walled tanks. Therefore, general containment is required for potential tank overfills. This containment is accomplished through the facility drainage system and the oil/water separator, which provide environmentally equivalent protection as described in Section 3.1 of this Plan.

Both USTs are of double-wall construction and provide intrinsic secondary containment for 110 percent of the tank capacity. The interstitial space between the primary and secondary containers is inspected on a monthly basis to detect any leak of product from the primary container.

The 55-gallon drums are placed on spill pallets inside the maintenance shop. Each spill pallet provides 75 gallons of containment capacity, which is more than the required 55 gallons for any single drum since the drums are not exposed to precipitation. The floor of the maintenance shop is impervious and sloped to direct any discharge occurring in the building away from doorways and towards the drainage system that leads to the facility oil/water separator.

4.2.3 Drainage of Diked Areas (40 CFR 112.8(c)(3))

The concrete dikes are drained under direct supervision of facility personnel. The accumulated water is observed for signs of oil prior to draining. The gate valves are normally kept in a closed position and locked except when draining the dike. Dike drainage events are recorded on the form included in Appendix D of this Plan; records are maintained at the facility for at least three years.

4.2.4 Corrosion Protection (40 CFR 112.8(c)(4))

Both metallic underground storage tanks, including Tank #6, which is subject to the requirements of 40 CFR part 112, are coated and cathodically protected to prevent corrosion and leakage into the ground. Pressure testing is performed on both buried storage tanks every two years following the requirements of 40 CFR part 280. The cathodic protection system is tested annually to verify its efficacy.

Cathodic protection is provided for both tanks in accordance with 40 CFR part 280 and meets the requirements of 40 CFR part 112.

Records of pressure tests are kept for at least three years.

4.2.5 Partially Buried and Bunkered Storage Tanks (40 CFR 112.8(c)(5))

This section is not applicable since there are no partially buried or bunkered storage tanks at this facility.

4.2.6 Inspections and Tests (40 CFR 112.8(c)(6))

Visual inspections of ASTs by facility personnel are performed according to the procedure described in this SPCC Plan. Leaks from tank seams, gaskets, rivets, and bolts are promptly corrected. Records of inspections and tests are signed by the inspector and kept at the facility for at least three years.

The scope and schedule of certified inspections and tests performed on the facility’s ASTs are specified in STI Standard SP-001. The external inspection includes ultrasonic testing of the shell, as specified in the standard, or if recommended by the certified tank inspector to assess the integrity of the tank for continued oil storage.

Records of certified tank inspections are kept at the facility for at least three years. Shell test comparison records are retained for the life of the tanks.

Table 4-2 summarizes inspections and tests performed on bulk storage containers ("EE" indicates that an environmentally equivalent measure is implemented in place of the inspection/test, as discussed in Section 3.1 of this Plan).

Table 4-2: Scope and Frequency of Bulk Storage Containers Inspections and Tests

	Tank ID							
Inspection/Test	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**Drums**
Visual inspection by facility personnel (as per checklist of Appendix C)	M A	M A	M A	M A			M A	M A
External inspection by certified inspector (as per STI Standard SP-001)	20 yr	20 yr	10 yr	EE			10 yr	EE
Internal inspection by certified inspector (as per STI Standard SP-001)	†	†	20 yr*	EE			20 yr*	EE
Tank tightness test meeting requirements of 40 CFR 280					2 yr	2 yr		

Legend: M: Monthly
A: Annual
EE: Inspection not required given use of environmentally equivalent measure (refer to Section 3.1 of this Plan).
* Or earlier, as recommended by the certified inspector based on findings from an external inspection.
† Internal inspection may be recommended by the certified inspector based on findings from the external inspection.

The frequency above is based on implementation of a scheduled inspection/testing program. To initiate the program, ASTs will be inspected by the following dates:

- Tank #1: external inspection to be performed by December 31, 2009
- Tank #2: external inspection to be performed by December 31, 2009
- Tank #3: external inspection to be performed by December 31, 2006
- Tank #7: external Inspection to be performed by December 31, 2006

4.2.7 Heating Coils (40 CFR 112.8(c)(7))

Exhaust lines from internal heating coils for Tank #7 drain to the oil/water separator. The exhaust lines are monitored for signs of leakage as part of the monthly inspection of the facility.

4.2.8 Overfill Prevention Systems (40 CFR 112.8(c)(8))

All tanks are equipped with a direct-reading level gauge. Additionally, all four fixed ASTs (Tanks #1, 2, 3, and 7) are equipped with high level alarms set at 90 percent of the rated capacity. Tank

#4 does not have an overfill prevention system. General secondary containment is provided in the event of overfills, as described in this Plan.

Storage drums are not refilled, and therefore overfill prevention systems do not apply.

Tanks #5 and 6 are equipped with liquid level gauges and overfill protection systems. Liquid level sensing devices are tested on a monthly basis during the monthly inspection of the facility, following manufacturer recommendations. Venting capacity is suitable for the fill and withdrawal rates.

Facility personnel are present throughout the filling operations to monitor the product level in the tanks.

4.2.9 Effluent Treatment Facilities (40 CFR 112.8(c)(9))

The facility's storm water effluent discharged into Silver Creek is observed and records maintained according to the frequency required by NPDES permit MA0000157 (at least once per month) to detect possible upsets in the oil/water separator that could lead to a discharge.

4.2.10 Visible Discharges (40 CFR 112.8(c)(10))

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, rivets, and bolts – are quickly corrected upon discovery.

Oil is promptly removed from the diked area and disposed of according to the waste disposal method described in Part 5 of this Plan.

4.2.11 Mobile and Portable Containers (40 CFR 112.8(c)(11))

Tank #4 is of double-wall design, which provides for adequate secondary containment in the event of leaks in the primary container shell. The interstitial space is monitored monthly for signs of leakage.

Small portable oil storage containers, such as 55-gallon drums, are stored inside the maintenance shop where secondary containment is provided by spill pallets and the floor is sloped to drain away from the floor drains and door. Any discharged material is quickly contained and cleaned up using sorbent pads and appropriate cleaning products.

Unified Oil delivery trucks generally return to the facility empty or product is returned to inventory. Whenever they remain at the facility while full for an extended period of time (such as when parking overnight with an emergency load of product), they are positioned in the loading rack/unloading area, which provides 2,500 gallons of secondary containment capacity (i.e., sufficient for the capacity of the delivery truck (2,000 gallons) and additional freeboard for 4 inches of precipitation).

4.3 Transfer Operations, Pumping, and In-Plant Processes (40 CFR 112.8(d))

Transfer operations at this facility include:

- The transfer of oil from the underground fuel oil storage tank to the furnace located in the basement of the office building. The oil is pumped from the oil storage tank by means of buried steel fuel lines and a suction pump system.
- The filling of facility delivery trucks using the gasoline dispenser.
- The transfer of oil into or from tanker trucks at the loading rack/unloading area.

All buried piping at this facility is cathodically protected against corrosion and is provided with a protective wrapping and coating. When a section of buried line is exposed, it is carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action must be taken as deemed appropriate considering the magnitude of the damage. Additionally, Unified Oil conducts integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement. Records of all tests are kept at the facility for at least three years.

Lines that are not in service or are on standby for an extended period of time are capped or blank-flanged and marked as to their origin.

All pipe supports are designed to minimize abrasion and corrosion and to allow for expansion and contraction. Pipe supports are visually inspected during the monthly inspection of the facility.

All aboveground piping and valves are examined monthly to assess their condition. Inspection includes aboveground valves, piping, appurtenances, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Observations are noted on the monthly inspection checklist provided in this Plan.

Warning signs are posted at appropriate locations throughout the facility to prevent vehicles from damaging aboveground piping and appurtenances. Most of the aboveground piping is located within areas that are not accessible to vehicular traffic (e.g., inside diked area). Brightly painted bollards are placed where needed to prevent vehicular collisions with equipment.

Part 5: Discharge Response

This section describes the response and cleanup procedures in the event of an oil discharge. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by state and possibly federal laws. Immediate action must be taken to control, contain, and recover discharged product.

In general, the following steps are taken:

- Eliminate potential spark sources;
- If possible and safe to do so, identify and shut down source of the discharge to stop the flow;
- Contain the discharge with sorbents, berms, fences, trenches, sandbags, or other material;
- Contact the Facility Manager or his/her alternate;
- Contact regulatory authorities and the response organization; and
- Collect and dispose of recovered products according to regulation.

For the purpose of establishing appropriate response procedures, this SPCC Plan classifies discharges as either “minor” or “major,” depending on the volume and characteristics of the material released.

A list of Emergency Contacts is provided in Appendix H. The list is also posted at prominent locations throughout the facility. A list of discharge response material kept at the facility is included in Appendix J.

5.1 Response to a Minor Discharge

A “minor” discharge is defined as one that poses no significant harm (or threat) to human health and safety or to the environment. Minor discharges are generally those where:

- The quantity of product discharged is small (e.g., may involve less than 10 gallons of oil);
- Discharged material is easily stopped and controlled at the time of the discharge;
- Discharge is localized near the source;
- Discharged material is not likely to reach water;
- There is little risk to human health or safety; and
- There is little risk of fire or explosion.

Minor discharges can usually be cleaned up by Unified Oil personnel. The following guidelines apply:

- Immediately notify the Facility Manager.
- Under the direction of the Facility Manager, contain the discharge with discharge response materials and equipment. Place discharge debris in properly labeled waste containers.
- The Facility Manager will complete the discharge notification form (Appendix I) and attach a copy to this SPCC Plan.
- If the discharge involves more than 10 gallons of oil, the Facility Manager will call the Massachusetts Department of Environmental Protection Incident Response Division (617-556-1133).

5.2 Response to a Major Discharge

A “major” discharge is defined as one that cannot be safely controlled or cleaned up by facility personnel, such as when:

- The discharge is large enough to spread beyond the immediate discharge area;
- The discharged material enters water;
- The discharge requires special equipment or training to clean up;
- The discharged material poses a hazard to human health or safety; or
- There is a danger of fire or explosion.

In the event of a major discharge, the following guidelines apply:

- All workers must immediately evacuate the discharge site via the designated exit routes and move to the designated staging areas at a safe distance from the discharge. Exit routes are included on the facility diagram and posted in the maintenance building, in the office building, and on the outside wall of the outside shed that contains the spill response equipment.
- If the Facility Manager is not present at the facility, the senior on-site person notifies the Facility Manager of the discharge and has authority to initiate notification and response. Certain notifications are dependent on the circumstances and type of discharge. For example, if oil reaches a sanitary sewer, the publicly owned treatment works (POTW) should be notified immediately. A discharge that threatens Silver Creek may require immediate notification to downstream users such as the town drinking water plant, which has an intake located on Silver Creek.
- The Facility Manager (or senior on-site person) must call for medical assistance if workers are injured.
- The Facility Manager (or senior on-site person) must notify the Fire Department or Police Department.
- The Facility Manager (or senior on-site person) must call the spill response and cleanup contractors listed in the Emergency Contacts list in Appendix H.

- The Facility Manager (or senior on-site person) must immediately contact the Massachusetts Department of Environmental Protection Incident Response Division (617-556-1133) and the National Response Center (888-424-8802).
- The Facility Manager (or senior on-site person) must record the call on the Discharge Notification form in Appendix I and attach a copy to this SPCC Plan.
- The Facility Manager (or senior on-site person) coordinates cleanup and obtains assistance from a cleanup contractor or other response organization as necessary.

If the Facility Manager is not available at the time of the discharge, then the next highest person in seniority assumes responsibility for coordinating response activities.

5.3 Waste Disposal

Wastes resulting from a minor discharge response will be containerized in impervious bags, drums, or buckets. The facility manager will characterize the waste for proper disposal and ensure that it is removed from the facility by a licensed waste hauler within two weeks.

Wastes resulting from a major discharge response will be removed and disposed of by a cleanup contractor.

5.4 Discharge Notification

Any size discharge (i.e., one that creates a sheen, emulsion, or sludge) that affects or threatens to affect navigable waters or adjoining shorelines must be reported immediately to the National Response Center (1-800-424-8802). The Center is staffed 24 hours a day.

A summary sheet is included in Appendix I to facilitate reporting. The person reporting the discharge must provide the following information:

- ❑ Name, location, organization, and telephone number
- ❑ Name and address of the party responsible for the incident
- ❑ Date and time of the incident
- ❑ Location of the incident
- ❑ Source and cause of the release or discharge
- ❑ Types of material(s) released or discharged
- ❑ Quantity of materials released or discharged
- ❑ Danger or threat posed by the release or discharge
- ❑ Number and types of injuries (if any)
- ❑ Media affected or threatened by the discharge (i.e., water, land, air)
- ❑ Weather conditions at the incident location
- ❑ Any other information that may help emergency personnel respond to the incident

Contact information for reporting a discharge to the appropriate authorities is listed in Appendix H and is also posted in prominent locations throughout the facility (e.g., in the office building, in the maintenance building, and at the loading rack/unloading area).

In addition to the above reporting, 40 CFR 112.4 requires that information be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator and the appropriate state agency in charge of oil pollution control activities (see contact information in Appendix H) whenever the facility discharges (as defined in 40 CFR 112.1(b)) *more than 1,000 gallons of oil in a single event,* or discharges (as defined in 40 CFR 112.1(b)) *more than 42 gallons of oil in each of two discharge incidents within a 12-month period.* The following information must be submitted to the EPA Regional Administrator and to MADEP within 60 days:

- Name of the facility;
- Name of the owner/operator;
- Location of the facility;
- Maximum storage or handling capacity and normal daily throughput;
- Corrective action and countermeasures taken, including a description of equipment repairs and replacements;
- Description of facility, including maps, flow diagrams, and topographical maps;
- Cause of the discharge(s) to navigable waters and adjoining shorelines, including a failure analysis of the system and subsystem in which the failure occurred;
- Additional preventive measures taken or contemplated to minimize possibility of recurrence; and
- Other pertinent information requested by the Regional Administrator.

A standard report for submitting the information to the EPA Regional Administrator and to MADEP is included in Appendix K of this Plan.

5.5 Cleanup Contractors and Equipment Suppliers

Contact information for specialized spill response and cleanup contractors are provided in Appendix H. These contractors have the necessary equipment to respond to a discharge of oil that affects Silver Creek or adjoining shorelines, including floating booms and oil skimmers.

Spill kits are located at the loading rack/unloading area and inside the maintenance building. The inventory of response supplies and equipment is provided in Appendix J of this Plan. The inventory is verified on a monthly basis. Additional supplies and equipment may be ordered from the following sources:

AA Equipment Co.	(800) 555-5556
Eastern Sorbent	(800) 555-5557

Appendix A
Site Plan and Facility Diagram

Figure A-1: Site Plan.

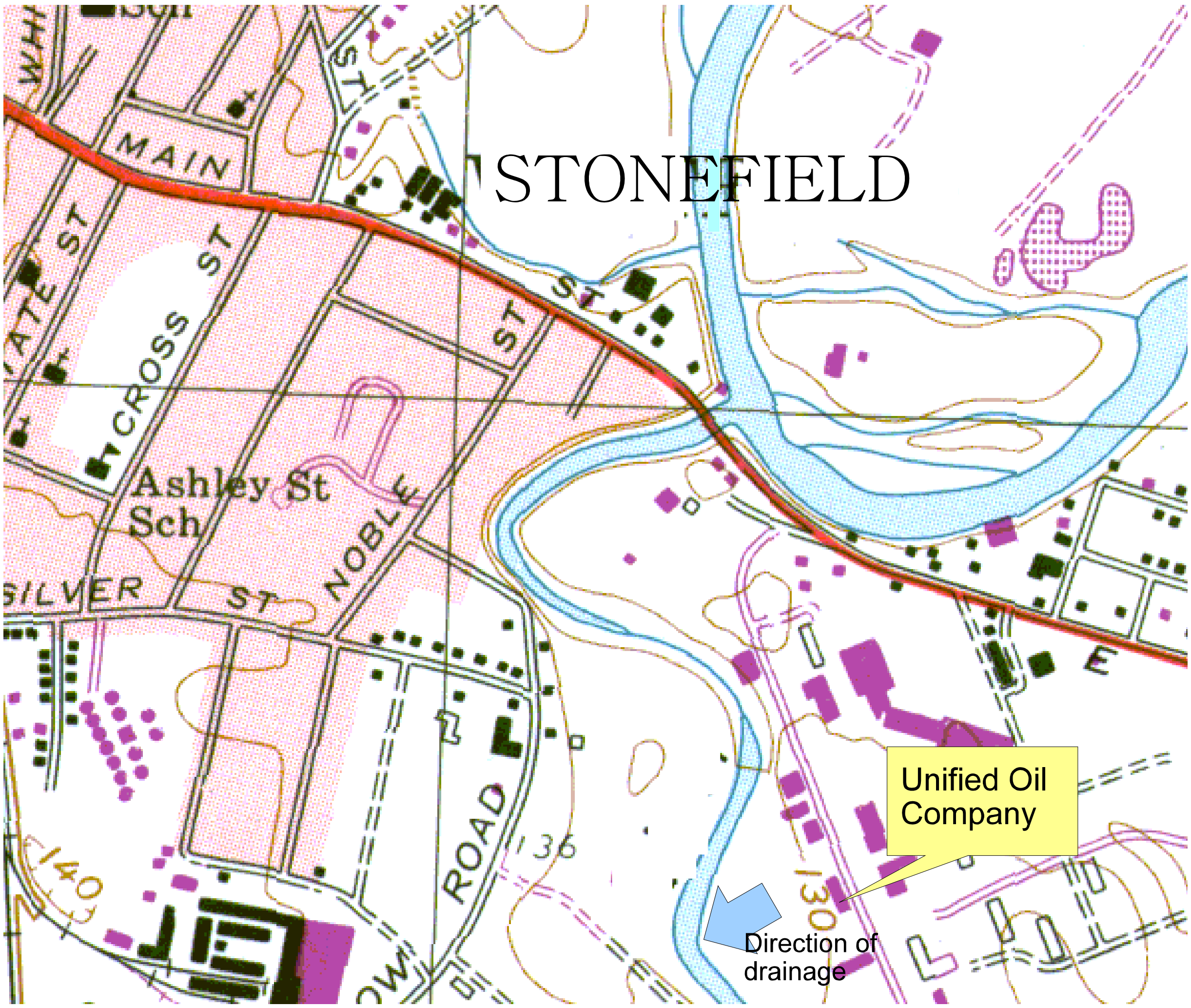
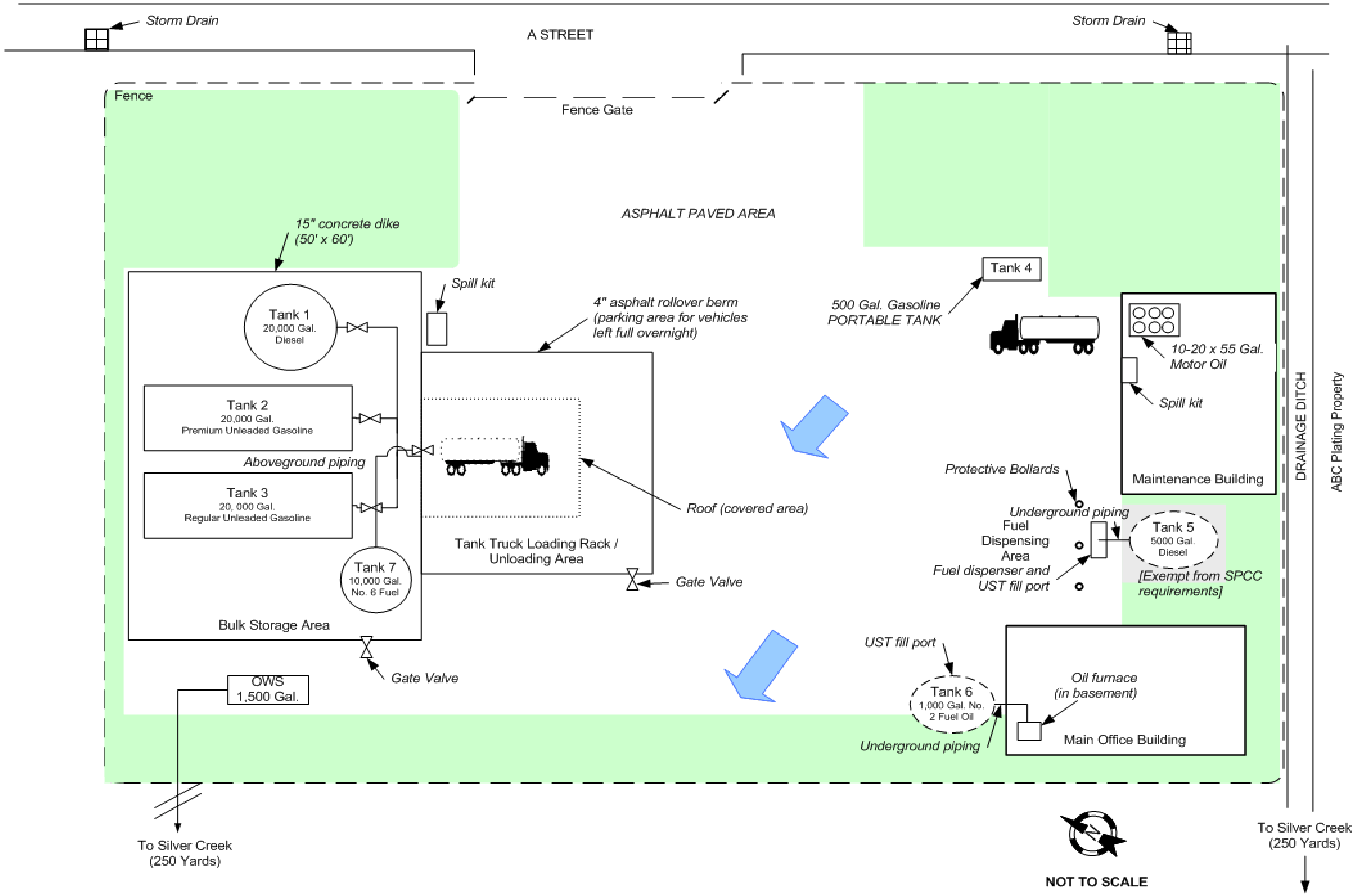


Figure A-2: Facility Diagram.



Appendix B
Substantial Harm Determination

Facility Name: Unified Oil Company
Facility Address: 123 A Street
Stonefield, MA 02000

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 in 40 CFR part 112 Appendix C, Attachment C-III or a comparable 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 the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable 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.

Susan Blake	*Facility Manager*
Signature	Title
Susan Blake	*May 12, 2003*
Name (type or print)	Date

APPENDIX C
Facility Inspection Checklists

The following checklists are to be used for monthly and annual facility-conducted inspections. Completed checklists must be signed by the inspector and maintained at the facility, with this SPCC Plan, for at least three years.

Monthly Inspection Checklist

This inspection record must be completed *each month* except the month in which an annual inspection is performed. Provide further description and comments, if necessary, on a separate sheet of paper and attach to this sheet. *Any item that receives “yes” as an answer must be described and addressed immediately.

	Y*	N	Description & Comments
Storage tanks			
Tank surfaces show signs of leakage			
Tanks are damaged, rusted or deteriorated			
Bolts, rivets, or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			
Vents are obstructed			
Secondary containment is damaged or stained			
Water/product in interstice of double-walled tank			
Dike drainage valve is open or is not locked			
Piping			
Valve seals, gaskets, or other appurtenances are leaking			
Pipelines or supports are damaged or deteriorated			
Joints, valves and other appurtenances are leaking			
Buried piping is exposed			
Loading/unloading and transfer equipment			
Loading/unloading rack is damaged or deteriorated			
Connections are not capped or blank-flanged			
Secondary containment is damaged or stained			
Berm drainage valve is open or is not locked			
Oil/water separator			
Oil/water separator > 2 inches of accumulated oil			
Oil/water separator effluent has a sheen			
Security			
Fencing, gates, or lighting is non-functional			
Pumps and valves are locked if not in use			
Response Equipment			
Response equipment inventory is complete			

Date: ____________ **Signature:** _________________________

Annual Facility Inspection Checklist

This inspection record must be completed *each year.* If any response requires further elaboration, provide comments in Description & Comments space provided. Further description and comments, if necessary, must be provided on a separate sheet of paper and attached to this sheet. *Any item that receives “yes” as an answer must be described and addressed immediately.

	Y*	N	Description & Comments
Storage tanks			
Tank #1			
Tank surfaces show signs of leakage			
Tank is damaged, rusted or deteriorated			
Bolts, rivets or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			
Vents are obstructed			
Tank #2			
Tank surfaces show signs of leakage			
Tank is damaged, rusted, or deteriorated			
Bolts, rivets, or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			
Vents are obstructed			
Tank #3			
Tank surfaces show signs of leakage			
Tank is damaged, rusted, or deteriorated			
Bolts, rivets, or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			
Vents are obstructed			
Tank #4			
Tank surfaces show signs of leakage			
Tank is damaged, rusted or deteriorated			
Bolts, rivets or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			

	Y*	N	Description & Comments
Vents are obstructed			
Oil is present in the interstice			
Tank #7			
Tank surfaces show signs of leakage			
Tank is damaged, rusted, or deteriorated			
Bolts, rivets, or seams are damaged			
Tank supports are deteriorated or buckled			
Tank foundations have eroded or settled			
Level gauges or alarms are inoperative			
Leakage in exhaust from heating coils			
Concrete dike			
Secondary containment is stained			
Dike drainage valve is open or is not locked			
Dike walls or floors are cracked or are separating			
Dike is not retaining water (following large rainfall)			
Piping			
Valve seals or gaskets are leaking			
Pipelines or supports are damaged or deteriorated			
Joints, valves and other appurtenances are leaking			
Buried piping is exposed			
Out-of-service pipes are not capped			
Warning signs are missing or damaged			
Loading/unloading and transfer equipment			
Loading/unloading rack is damaged or deteriorated			
Connections are not capped or blank-flanged			
Rollover berm is damaged or stained			
Berm drainage valve is open or is not locked			
Drip pans have accumulated oil or are leaking			
Oil/water separator			
Oil/water separator > 2 inches of accumulated oil			
Oil/water separator effluent has a sheen			
Security			
Fencing, gates, or lighting is non-functional			
Pumps and valves are not locked (and not in use)			
Response equipment			
Response equipment inventory is incomplete			

Annual reminders:
- Hold SPCC Briefing for all oil-handling personnel (and update briefing log in the Plan);
- Check contact information for key employees and response/cleanup contractors and update them in the Plan as needed;

Additional Remarks:

Date: _______________ Signature: _____________________

APPENDIX D
Record of Containment Dike Drainage

This record must be completed when rainwater from diked areas is drained into a storm drain or into an open watercourse, lake, or pond, and bypasses the water treatment system. The bypass valve must normally be sealed in closed position. It must be opened and resealed following drainage under responsible supervision.

Date	**Diked Area**	**Presence of**	**Time**	**Time**	**Signature**
06/05/2003	Area 1	No oil	08:00	10:00	Susan Blake
07/15/2003	Area 1	No oil	08:20	10:30	Susan Blake

APPENDIX E
Record of Annual Discharge Prevention Briefings and Training

Briefings will be scheduled and conducted by the facility owner or operator for operating personnel at regular intervals to ensure adequate understanding of this SPCC Plan. The briefings will also highlight and describe known discharge events or failures, malfunctioning components, and recently implemented precautionary measures and best practices. Personnel will also be instructed in operation and maintenance of equipment to prevent the discharge of oil, and in applicable pollution laws, rules, and regulations. Facility operators and other personnel will have an opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

Date	Subjects Covered	Employees in Attendance	Instructor(s)

APPENDIX F
Calculation of Secondary Containment Capacity

The maximum 24-hour rainfall recorded in the last 25 years at this location is **3.75 inches**.

Bulk Storage Dike

Capacity of Tanks within the Diked Area:
Tank 1 = 20,000 gallons (saddle-mounted tank, no significant displacement)
Tank 2 = 20,000 gallons (saddle-mounted tank, no significant displacement)
Tank 3 = 20,000 gallons (need to account for tank displacement)
Tank 7 = 10,000 gallons (on legs, no significant displacement)

Dike Dimensions:
Dike footprint = 50 feet x 60 feet
Dike height = 15 inches = 1.25 feet
Dike volume = 50' x 60' x 1.25' = 3750 ft^3 x 7.48 gal/ft^3 = 28,050 gallons

Displacement Volume of Tank 3:
Tank diameter = 10 feet
3.1415 * $(10 ft)^2$ / 4 * 1.25' = 98 ft^3 x 7.48 gal/ft^3 = 734 gallons

Available Freeboard for Precipitation:
28,050 gallons - (20,000 gallons + 734 gallons) = 7,316 gallons
7,316 gallons / 7.48 gallons/ft^3 / (50 ft x 60 ft) = 0.33 ft = **4 inches**

The dike therefore **provides sufficient storage capacity for the largest bulk storage container within the diked area, tank displacement, and precipitation**. The containment capacity is equivalent to 137% of the capacity of the largest container ((28,050 gallons - 734 gallons)/20,000 gallons).

Loading Rack/Unloading Area Rollover Berm

Capacity of Largest Tank Truck Compartment:
2,000 gallons

Berm Dimensions:
Berm footprint = 28 feet x 45 feet (50% of the berm surface area is covered by the roof)
Berm height = 4.5 inches = 0.375 feet
Berm volume = 28 ft x 45 ft x 0.375 ft = 473 ft^3 x 7.48 gal/ft^3 = 3,534 gallons

Available Freeboard for Precipitation:
Since 50% of the surface area of the berm is covered by a roof, the volume of precipitation that enters the berm is reduced.

Minimum freeboard required = 28 ft x 45 ft x 0.5 x 3.75/12 = 197 ft^3 = 1,472 gallons
Actual freeboard = 3,534 gallons - 2,000 gallons = 1,534 gallons

The berm therefore **provides sufficient storage capacity to contain both the largest compartment of tank trucks loading/unloading at the facility, and the volume of precipitation that enters the berm**.

APPENDIX G
Records of Tank Integrity and Pressure Tests

Attach copies of official records of tank integrity and pressure tests.

APPENDIX H
Emergency Contacts

Designated person responsible for spill prevention: ***Susan Blake, Facility Manager***
781-555-5550

EMERGENCY TELEPHONE NUMBERS:

Facility	
Susan Blake, Facility Manager	781-555-5550
Local Emergency Response	
Stonefield Fire Department	911 or 781-555-5551
St. Mary's Hospital	781-555-5552
Response/Cleanup Contractors	
EZ Clean	617-555-5554
Stonefield Oil Removal	781-555-5555
Notification	
Massachusetts Department of Environmental Protection, Incident Response Division	617-556-1133
National Response Center	800-424-8802
United States Environmental Protection Agency, Region 1	888-372-7341

APPENDIX I
Discharge Notification Form

Part A: Discharge Information	
General information when reporting a spill to outside authorities: Name: Unified Oil Company Address: 123 A Street, Stonefield, MA 02000 Telephone: (781) 555-5556 Owner/Operator: Blake and Daughters, Inc., 20 Fairview Road, Stonefield, MA 02000 Primary Contact: Susan Blake, Facility Manager Work: (781)555-5550 Cell (24 hrs): (781)555-5559	
Type of oil:	Discharge Date and Time:
Quantity released:	Discovery Date and Time:
Quantity released to a waterbody:	Discharge Duration:
Location/Source:	
Actions taken to stop, remove, and mitigate impacts of the discharge:	
Affected media: ☐ air ☐ water ☐ soil	☐ storm water sewer/POTW ☐ dike/berm/oil-water separator ☐ other: ____________________
Notification person:	Telephone contact: Business: 24-hr:
Nature of discharges, environmental/health effects, and damages: Injuries, fatalities or evacuation required?	

Part B: Notification Checklist		
	Date and time	Name of person receiving call
Discharge in any amount		
Susan Blake, Facility Manager and Response Coordinator (781) 555-5550 / (781) 555-5559		
Discharge in amount exceeding 10 gallons and *not affecting a waterbody or groundwater*		

Local Fire Department Fire Chief: D. Evans (781) 555-1258 or 911		
Massachusetts Department of Environmental Protection (888) 304-1133 or (617) 553-1133		
Discharge in any amount and affecting (or threatening to affect) a waterbody		
Local Fire Department Fire Chief: D. Evans (781) 555-1258 or 911		
Massachusetts Department of Environmental Protection (888) 304-1133 or (617) 553-1133		
National Response Center (800) 424-8802		
*Town of Stonefield POTW Plant Operator: K. Bromberg (781) 555-5453		
Town of Stonefield Drinking Water Plant Plant Operator: D. Lopez (781) 555-5450		
EZ Clean (617) 555-5554		

* The POTW should be notified of a discharge only if oil has reached or threatens sewer drains that connect to the POTW collection system.

APPENDIX J
Discharge Response Equipment Inventory

The discharge response equipment inventory is verified during the monthly inspection and must be replenished as needed.

Tank Truck Loading/Unloading Area

☐	Empty 55-gallons drums to hold contaminated material	4
☐	Loose absorbent material	200 pounds
☐	Absorbent pads	3 boxes
☐	Nitrile gloves	6 pairs
☐	Neoprene gloves	6 pairs
☐	Vinyl/PVC pull-on overboots	6 pairs
☐	Non-sparking shovels	3
☐	Brooms	3
☐	Drain seals or mats	2
☐	Sand bags	12

Maintenance Building

☐	Empty 55-gallons drums to hold contaminated material	1
☐	Loose absorbent material	50 pounds
☐	Absorbent pads	1 box
☐	Nitrile gloves	2 pairs
☐	Neoprene gloves	2 pairs
☐	Vinyl/PVC pull-on overboots	2 pairs
☐	Non-sparking shovels	1
☐	Brooms	1
☐	Drain seals or mats	1

APPENDIX K
Agency Notification Standard Report

Information contained in this report, and any supporting documentation, must be submitted to the EPA Region 1 Regional Administrator, and to MADEP, within 60 days of the qualifying discharge incident.

Facility:	*Unified Oil Company*
Owner/operator:	*Blake and Daughters* *20 Fairview Road* *Stonefield, MA 02000*
Name of person filing report:	
Location:	*123 A Street* *Stonefield, MA 02000*
Maximum storage capacity:	*74,600 gallons*
Daily throughput:	*8,000 gallons*
Nature of qualifying incident(s): ☐ Discharge to navigable waters or adjoining shorelines exceeding 1,000 gallons ☐ Second discharge exceeding 42 gallons within a 12-month period.	
Description of facility (attach maps, flow diagrams, and topographical maps): *Unified Oil distributes a variety of petroleum products to primarily commercial customers. The facility handles, stores, uses, and distributes petroleum products in the form of gasoline, diesel, No. 2 fuel oil, No. 6 fuel oil, and motor oil. Unified Oil receives products by common carrier via tanker truck. The products are stored in five aboveground storage tanks (ASTs) and in one underground storage tank (UST). They are delivered to customers by Unified Oil trucks or by independent contractors. The facility refuels its own two delivery trucks from an underground diesel tank connected to a fueling pump.* *Unified Oil is located in a primarily commercial area at 123 A Street in Stonefield, Massachusetts. The site is comprised of approximately 2 acres of land and is bordered to the East by A Street, to the West by Silver Creek, and to the North by ABC Plating Co.* *Site improvements include an office building, a maintenance shop, a tanker truck loading rack and unloading area, and product storage and handling areas. Petroleum products are stored in the bulk storage area, the maintenance building, and the office building.*	

Agency Notification Standard Report (cont'd)
Cause of the discharge(s), including a failure analysis of the system and subsystems in which the failure occurred:
Corrective actions and countermeasures taken, including a description of equipment repairs and replacements:
Additional preventive measures taken or contemplated to minimize possibility of recurrence:
Other pertinent information:

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APPENDIX E: SAMPLE PRODUCTION FACILITY SPCC PLAN

Disclaimer - Appendix E

The sample Spill Prevention, Control and Countermeasure (SPCC) Plan in Appendix E is intended to provide examples and illustrations of how a production facility could address a variety of scenarios in its SPCC Plan. The "facility" is not an actual facility, nor does it represent any actual facility or company. Rather, EPA is providing illustrative examples of the type and amount of information that is appropriate SPCC Plan language for these hypothetical situations.

Because the SPCC rule is designed to give each facility owner/operator the flexibility to tailor the facility's SPCC Plan to the facility's circumstances, this sample SPCC Plan is not a template to be adopted by a facility; doing so does not mean that the facility will be in compliance with the SPCC rule requirements. Nor is the sample plan a template that must be followed in order for the facility to be considered in compliance with the SPCC rule.

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Clearwater Oil Company

Big Bear Lease No. 2 Production Facility

5800 Route 417
Madison, St. Anthony Parish, Louisiana 73506

Clearwater

Prepared by
Montgomery Engineering, Inc.

November 23, 2003

Version 1.0, 11/28/2005

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* Only relevant rule provisions are indicated. For a complete list of SPCC requirements, refer to the full text of 40 CFR part 112.

Introduction

The purpose of this Spill Prevention Control and Countermeasure (SPCC) Plan is to describe measures implemented by Clearwater to prevent oil discharges from occurring, and to prepare Clearwater to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge from the Big Bear Lease No. 2 production facility. This SPCC Plan has been prepared and implemented in accordance with the SPCC requirements contained in 40 CFR part 112.

In addition to fulfilling requirements of 40 CFR part 112, this SPCC Plan is used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with Clearwater employees and contractors, as a guide on facility inspections, and as a resource during emergency response.

Management Approval
40 CFR 112.7

Clearwater Oil Company ("Clearwater") is committed to maintaining the highest standards for preventing discharges of oil to navigable waters and the environment through the implementation of this SPCC Plan. This SPCC Plan has the full approval of Clearwater management. Clearwater's management has committed the necessary resources to implement the measures described in this Plan.

Bill Laurier is the Designated Person Accountable for Oil Spill Prevention at this Clearwater facility and has the authority to commit the necessary resources to implement the Plan as described.

Authorized Facility Representative:	Bill Laurier
Signature:	*Bill Laurier*
Title:	Field Operations Manager
Date:	November 23, 2003

Professional Engineer Certification
40 CFR 112.3(d)

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the *Code of Federal Regulations* (40 CFR part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility. [112.3(d)]

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR part 112.

Peter E. Trudeau — *November 23, 2003*
Signature — Date

Peter E. Trudeau, P.E.
Name of Professional Engineer

90535055 — *Louisiana*
Registration Number — Issuing State

PE Seal

Peter E. Trudeau
LA #90535055

Plan Review
40 CFR 112.5

In accordance with 40 CFR 112.5, Clearwater Oil periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge. Clearwater reviews this SPCC Plan at least once every five years. Revisions to the Plan, if any are needed, are made within six months of this five-year review. Clearwater will implement any amendment as soon as possible, but not later than six months following preparation of any amendment. A registered PE certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3(d).

Scheduled five-year reviews and Plan amendments are recorded in Table 0-1. This log must be completed even if no amendment is made to the Plan. Unless a technical or administrative change prompts an earlier review, the next scheduled review of this Plan must occur by *November 23, 2008.*

Table 0-1: Record of Plan Review and Changes

Date	Authorized Individual	Review Type	PE Certification	Summary of Changes
11/23/03	Bill Laurier	Initial Plan	Yes	N/A
04/14/04	Bill Laurier	Off-cycle review	No	Changed telephone number for Field Operations Manager. Corrected page numbers in Table of Content. Non-technical amendments, no PE certification is needed.

Location of SPCC Plan
40 CFR 112.3(e)

In accordance with 40 CFR 112.3(e), and because the facility is normally unmanned, a complete copy of this SPCC is maintained at the field office closest to the facility, which is located approximately 25 miles from the facility at 2451 Mountain Drive, Ridgeview, LA. Additional copies are available at the Clearwater Oil Company management office, located at 13000 Main Street, Suite 400, Houston, TX.

Certification of Substantial Harm Determination

40 CFR 112.20(e), 40 CFR 112.20(f)(1)

Facility Name: **Clearwater Oil Company, Big Bear Lease No. 2**

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 the 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.

Bill Laurier	*Field Operations Manager*
Signature	Title
Bill Laurier	*November 23, 2003*
Name (type or print)	Date

PART I - GENERAL FACILITY INFORMATION

40 CFR 112.7(a)(3)

1.1 Company Information

Name of Facility:	Clearwater Oil Company Big Bear Lease No. 2
Type	Onshore oil production facility
Date of Initial Operation	2002
Location	5800 Route 417 Madison, St. Anthony Parish, Louisiana 73506
Name and Address of Owner	Clearwater Oil Company *Regional Field Office* 2451 Mountain Drive Ridgeview, LA 70180 *Corporate Headquarters* 13000 Main Street, Suite 400 Houston, TX 77077

1.2 Contact Information

The designated person accountable for overall oil spill prevention and response at the facility, also referred to as the facility's "Response Coordinator" (RC), is the Field Operations Manager, Bill Laurier. 24-hour contact information is provided in Table 1-1.

Personnel from Avonlea Services Inc. ("Avonlea") provide operations (pumper/gauger) support activities to Clearwater field personnel, including performing informal daily examinations of the facility equipment, as described in Section 3.4 of this SPCC Plan. Avonlea personnel regularly visit the facility to record production levels and perform other maintenance/inspection activities as requested by the Clearwater Field Operations Manager. Key contacts for Avonlea are included in Table 1-1.

Table 1-1: Facility contact information

Name	Title	Telephone	Address
Lester Pearson	Vice-President of Operations Clearwater Oil Co.	(555)-289-4500	13000 Main Street, Suite 400 Houston, TX 77077
Carol Campbell	Regional Director of Operations Clearwater Oil Co.	(405) 831-6320 (office) (405) 831-2262 (cell)	2451 Mountain Drive Ridgeview, LA 70180
Bill Laurier	Field Operations Manager Clearwater Oil Co.	(405) 831-6322 (office) (405) 829-4051 (cell)	2451 Mountain Drive Ridgeview, LA 70180
Joe Clark	Field Supervisor Avonlea Services, Inc.	(406) 545-2285 (office) (406) 549-9087 (cell)	786 Cherry Creek Road Avonlea, LA 70180
William Mackenzie	Pumper Avonlea Services, Inc.	(406) 549-9087 (cell)	786 Cherry Creek Road Avonlea, LA 70180

1.3 Facility Layout Diagram

Appendix A, at the end of this Plan, shows a general site plan for the facility. The site plan shows the site topography and the location of the facility relative to waterways, roads, and inhabited areas. Appendix A also includes a detailed facility diagram that shows the wells, flowlines, tank battery, and transfer areas for the facility. The diagram shows the location, capacity, and contents of all oil storage containers greater than 55 gallons in capacity.

1.4 Facility Location and Operations

Clearwater owns and operates the Big Bear Lease No. 2 production facility, which is located approximately six miles north of Madison, St. Anthony Parish, Louisiana (see Figure A-1 in Appendix A). The site is accessed through a private dirt/gravel road off Route 417.

As illustrated in Figure A-2 in Appendix A, the facility is comprised of five main areas: Well A, Well B, the saltwater disposal well, flowlines, and a tank battery. The tank battery includes three 400-barrel (bbl) oil storage tanks, one 500-bbl produced water tank, one 500-bbl gun barrel, and associated flowlines and piping.

The production facility is generally unmanned. Clearwater's field office is located 25 miles from the site, at 2541 Mountain Drive, Ridgeview, Louisiana. Field operations personnel from Clearwater, or pumpers acting as contractors to Clearwater visit the facility daily (2-4 hours each day) to record production rates and ensure the proper functioning of wellhead equipment and pumpjacks, storage tanks, flowlines, and separation vessels. This includes performing equipment inspections and maintenance as needed.

The facility produces an average of 30 bbl (1,260 gallons) of crude oil (approximately 40 API gravity) and 140 bbl (5,880 gallons) of produced water each day. The produced water tank contains an oil/produced water mixture. It is subject to 40 CFR part 112 and is covered by this SPCC Plan.

1.5 Oil Storage and Handling

1.5.1 Production Equipment

Oil storage at the facility consists of one (1) 500-bbl gun barrel, three (3) 400-bbl aboveground storage tanks, one (1) 500-bbl produced water tank, and associated piping, as summarized in Table 1-2. The total oil capacity at this facility is 2,200 bbl (92,400 gallons).

All oil storage tanks are shop-built and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage. Tanks storing crude or produced oil (#1 through #4) are constructed of welded steel following API-12F *Shop Welded Tanks for Storage of Production Liquids* specifications. Steel tanks are coated to minimize corrosion. Tank holding produced water (#5) constructed of fiberglass following API-12P *Fiberglass Reinforced Plastic Tanks* specifications.

Other production equipment present at the facility include the pumpjacks at each well and water pumps for transfer of saltwater to the injection well. These store a minimal amount of lubricating oil (less than 55 gallons). Lubricating oil and other substances, such as solvents and chemicals for downhole treatment, are also stored at the facility, but in quantities below the 55-gallon threshold for SPCC applicability. Table 1-2 lists all oil containers present at the facility with capacity of 55 gallons or more.

Table 1-2: Characteristics of oil containers

ID	Type	Construct ion	Primary Content	Capacity (barrels)	Capacity (gallons)
#1	Gun barrel	Steel	Oil	500	21,000
#2	AST	Steel	Oil	400	16,800
#3	AST	Steel	Oil	400	16,800
#4	AST	Steel	Oil	400	16,800
#5	AST	Fiberglass	Produced water and oil mixture	500	21,000
			TOTAL	2,200	92,400

1.5.2 Transfer Activities

Wells A and B produce crude oil, produced water (saltwater), and small amounts of natural gas. The oil and water are produced through the tubing, while the natural gas is produced through the casing. Well liquids are then routed via 2-inch steel flowlines to the gun barrel tank for separation, while the gas is sent to a flare. Produced saltwater is routed from the gun barrel to the 500-bbl saltwater storage tank first, then is pumped through flowlines to the saltwater disposal well where it is injected. The disposal well is located approximately 2,000 ft to the west of the tank battery. The crude oil is sent to the three 400-bbl (16,800-gallon) oil storage tanks.

Crude oil from the lease is purchased by Clearwater's crude oil purchaser and transported from the facility by the purchaser's tanker truck. Although daily well production rates may vary, enough crude is produced and stored for approximately one 180-bbl (7,560-gallon) load of oil to be picked up weekly by the transporter. The largest tanker truck visiting the facility has a total capacity of 210 bbl (8,820 gallons). Tanker trucks come to the facility only to transfer crude oil and do not remain at the facility. All transfer operations are attended by the trucker or by field operations personnel and meet the minimum requirements of the U.S. Department of Transportation Hazardous Materials Regulations. Appendix B to this Plan summarizes the Tank Truck Loading Procedure at this facility.

Produced saltwater is pumped via transfer pumps from the saltwater tank to the saltwater disposal well, located approximately 2,000 feet west of the facility, by 2-inch PVC flowlines (FLSW). The disposal well meets all requirements of the Underground Injection Control (UIC) program (40 CFR parts 144-148).

1.6 Proximity to Navigable Waters

The facility is located within the Mines River watershed, approximately half a mile to the west of Big Bear Creek, and six miles North of the Mines River. The wells and tank battery are situated on relatively level ground that slopes in a general southeastern direction. The site plan in Figure A-1 in Appendix A shows the location of the facility relative to nearby waterways. The facility diagram included in Figure A-2 in Appendix A indicates the general direction of drainage. In the event of an uncontrolled discharge from the wells, flowlines, or the tank battery areas, oil would follow the natural topography of the site and flow into Big Bear Creek. Big Bear Creek meets with the Mines River to the south just before the town of Madison. The River then flows in a general easterly direction following Route 101.

1.7 Conformance with Applicable State and Local Requirements [112.7(j)]

The SPCC regulation at 40 CFR part 112 is more stringent than requirements from the state of Louisiana for this type of facility. This SPCC Plan was written to conform with 40 CFR part 112 requirements. The facility thereby conforms with general requirements for oil pollution facilities in Louisiana. All discharge notifications are made in compliance with local, state, and federal requirements.

PART II. SPILL RESPONSE AND REPORTING

40 CFR 112.7

2.1 Discharge Discovery and Reporting [112.7(a)(3)]

Several individuals and organizations must be contacted in the event of an oil discharge. The Field Operations Manager is responsible for ensuring that all required discharge notifications have been made. All discharges should be reported to the Field Operations Manager. The summary table included in Appendix F to this SPCC Plan provides a list of agencies to be contacted under different circumstances. Discharges would typically be discovered during the inspections conducted at the facility in accordance with procedures set forth in Section 3.4.1 of this SPCC Plan, Table 3-3 and Table 3-4, and on the checklist of Appendix C. The Form included in Appendix F of this Plan summarizes the information that must be provided when reporting a discharge, including contact lists and phone numbers.

2.1.1 Verbal Notification Requirements (Local, State, and Federal (40 CFR part 110))

Any unauthorized discharge into air, land or water must be reported immediately to the State Police and the Emergency Planning Commission as soon as the discharge is detected.

For any discharge that reaches navigable waters, or threatens to reach navigable waters, *immediate* notification must be made to the National Response Center Hotline (800-424-8802) and to the Environmental Protection Agency.

In the event of a discharge that threatens to result in an emergency condition, facility field personnel must verbally notify the Louisiana Emergency Hazardous Materials Hotline (225-925-6595) immediately, and in no case later than *within one (1) hour* of the discovery of the discharge. An emergency condition is any condition that could reasonably be expected to endanger the health and safety of the public; cause significant adverse impact to the land, water, or air environment; or cause severe damage to property. This notification must be made regardless of the amount of the discharge.

In the event of a discharge that does not present an emergency situation, verbal notification must be made to the Office of Environmental Compliance (by telephone at 225-763-3908 during office hours or 225-342-1234 after hours, weekends, and holidays; or by e-mail utilizing the Incident Report Form and procedures found at www.deq.state.la.us/surveillance) *within twenty-four (24) hours* of the discovery of the discharge.

2.1.2 Written Notification Requirements (State and Federal (40 CFR part 112))

A written notification will be made to EPA for any single discharge of oil to a navigable waters or adjoining shoreline waterway of more than 1,000 gallons, or for two discharges of 1 bbl (42 gallons) of oil to a waterway in any 12-month period. This written notification must be made within 60 days of the qualifying discharge, and a copy will be sent to the Louisiana Department of Environmental Quality (DEQ), which is the state agency in charge of oil pollution control activities. This reporting requirement is separate and in addition to reporting under 40 CFR part 110 discussed above.

For any discharge reported verbally, a written notification must also be sent to the DEQ and to the St. Anthony's Parish Local Emergency Planning Committee (LEPC), both within five (5) days of the qualifying discharge.

A written notification to the State Emergency Response Commission or LEPC is required for a discharge of 100 lbs or more beyond the confines of the facility (equivalent to 2 mcf of natural gas, or 13 gallons of oil) within five (5) days of the qualifying discharge.

2.1.3 Submission of SPCC Information

Whenever the facility experiences a discharge into navigable waters of more than 1,000 gallons, or two discharges of 42 gallons or more within a 12-month period, Clearwater will provide information in writing to the EPA Region 6 office within 60 days of a qualifying discharge as described above. The required information is described in Appendix F of this SPCC Plan.

2.2 Spill Response Materials

Boom, sorbent, and other spill response materials are stored in the shed next to the loading area and are accessible by Clearwater and Avonlea personnel. The response equipment inventory for the facility includes:

(4)	Empty 55-gallons drums to hold contaminated material
(3)	50-ft absorbent socks
(4)	10-ft sections of hard skirted deployment boom
(2)	50-ft floating booms
(200 pounds)	"Oil-dry" loose absorbent material
(4 boxes)	2 ft x 3 ft absorbent pads
(3 boxes)	Nitrile gloves
(3 boxes)	Neoprene gloves
(6 pairs)	Vinyl/PVC pull-on overboots
(3)	Non-sparking shovels
(3)	Brooms
(20)	Sand bags
(1)	Combustible Gas Indicator with H_2S detection capabilities

Additional equipment and material are also kept at the field office. The inventory is checked monthly by Clearwater field operations personnel to ensure that used material is replenished. Supplies and equipment may be ordered from:

(1) Rocky Mountain Equipment Co. (800) 959-3000
(2) Quick Sorbent (800) 857-4650.

2.3 Spill Mitigation Procedures

The following is a summary of actions that must be taken in the event of a discharge. It summarizes the distribution of responsibilities among individuals and describes procedures to follow in the event of a discharge.

Reminder: *In the event of a discharge originating from Flowline A or Flowline B, facility personnel must immediately implement the Oil Spill Contingency Plan. The Oil Spill Contingency Plan discusses the additional procedures that must be followed to respond to a discharge of oil to navigable waters or adjoining shorelines.*

A complete outline of actions to be performed in the event of a discharge from flowlines reaching or threatening to reach navigable waters is included in the facility Contingency Plan (see Appendix I of this SPCC Plan).

In the event of a discharge, Clearwater or contractor field personnel and the Field Operations Manager shall be responsible for the following:

2.3.1 Shut Off Ignition Sources

Field personnel must shut off all ignition sources, including motors, electrical circuits, and open flames. See Appendix G for more information about shut-off procedures.

2.3.2 Stop Oil Flow

Field personnel should determine the source of the discharge, and if safe to do so, immediately shut off the source of the discharge. Shut in the well(s) if necessary.

2.3.3 Stop the Spread of Oil and Call the Field Operations Manager

If safe to do so, field personnel must use resources available at the facility (see spill response material and equipment listed in Section 2.2) to stop the spilled material from spreading. Measures that may be implemented, depending on the location and size of the discharge, include placing sorbent material or other barriers in the path of the discharge (e.g., sand bags), or constructing earthen berms or trenches.

In the event of a significant discharge, field personnel must immediately contact the Field Operations Manager, who may obtain assistance from authorized company contractors and direct the response and cleanup activities. Should a discharge reach Big Bear Creek, only physical response and countermeasures should be employed, such as the construction of underflow dams, installation of hard boom and sorbent boom, use of sorbent pads, and use of vacuum trucks to recover oil and oily water from the creek. If water flow is low in the creek, construction of an underflow dam downstream and ahead of the spill flow may be advantageous. Sorbent material and/or boom should be placed immediately downstream of the dam to recover any sheen from the water. If water flow is normal in the creek, floating booms and sorbent boom will be deployed. Vacuum trucks will then be utilized to remove oil and oily water at dams and other access points. Crews should remove oiled vegetation and debris from the creek banks and place them in bags for later disposal. After removal of contaminated vegetation, creek banks should be flushed with water to remove free oil and help it flow down to dams and other access points where it can be recovered by vacuum truck. At no time shall any surfactants, dispersants, or other chemicals be used to remove oil from the creek.

2.3.4 Gather Spill Information

The Field Operations Manager will ensure that the *Discharge Notification Form* is filled out and that notifications have been made to the appropriate authorities. The Field Operations Manager may ask for assistance in gathering the spill information on the *Discharge Notification Form* (Appendix F) of this Plan:

- Reporter's name
- Exact location of the spill
- Date and time of spill discovery
- Material spilled (e.g., oil, produced water containing a reportable quantity of oil)
- Total volume spilled and total volume reaching or threatening navigable waters or adjoining shorelines
- Weather conditions
- Source of spill
- Actions being taken to stop, remove, and mitigate the effects of the discharge
- Whether an evacuation may be needed
- Spill impacts (injuries; damage; environmental media, e.g., air, waterway, groundwater)
- Names of individuals and/or organizations who have also been contacted

2.3.5 Notify Agencies Verbally

Some notifications must be completed *immediately* upon discovering the discharge. It is important to immediately contact the Field Operations Manager so that timely notifications can be made. If the Field Operations Manager is not available, or the Field Operations Manager requests it, field personnel must designate one person to begin notification. Section 2.1 of this Plan describes the required notifications to government agencies. The Notification List is included in Appendix F of this SPCC Plan. The Field Operations Manager must also ensure that written notifications, if needed, are submitted to the appropriate agencies.

2.4 Disposal Plan

The cleanup contractor will handle the disposal of any recovered product, contaminated soil, contaminated materials and equipment, decontamination solutions, sorbents, and spent chemicals collected during a response to a discharge incident.

Any recovered product that can be recycled will be placed into the gun barrel tank to be separated and recycled. Any recovered product not deemed suitable for on-site recycling will be disposed of with the rest of the waste collected during the response efforts.

If the facility responds to a discharge without involvement of a cleanup contractor, Clearwater will contract a licensed transportation/disposal company to dispose of waste according to regulatory requirements. The Field Operations Manager will characterize the waste and arrange for the use of certified waste containers.

All facility personnel handling hazardous wastes must have received both the initial 40-hour and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Health and Safety Administration (OSHA). This training is included as part of the initial training received by all field personnel. Training records and certificates are kept at the field office.

PART III. SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PROVISIONS

40 CFR 112.7 and 112.9

3.1 Potential Discharge Volume and Direction of Flow [112.7(b)] and Containment [112.7(a)(3)(iii)]

Table 3-1, below, summarizes potential oil discharge scenarios. If unimpeded, oil would follow the site topography and reach Big Bear Creek.

Table 3-1: Potential discharge volume and direction of flow

Source	Type of failure	Maximum Volume (gal)	Maximum Discharge Rate (gal/hr)	Direction of Flow	Containment
Tank Battery					
Crude Oil Storage Tank	Rupture due to lightning strike, seam failure	16,800	16,800	Southeast towards Big Bear Creek.	Containment berm
	Leak at manway, valves	24	1	Southeast towards Big Bear Creek.	
	Overflow (1 day's production)	1,260	53	Southeast towards Big Bear Creek.	
Gun barrel	Rupture due to lightning strike, seam failure	21,000	21,000	Southeast towards Big Bear Creek.	Containment berm
	Leak at manway, valves	42	2	Southeast towards Big Bear Creek.	
	Overflow (1 day's production)	7,140	298	Southeast towards Big Bear Creek.	Containment berm
Flowlines and Piping					
Flowlines and Piping on Storage Tanks and Gun Barrel	Rupture/failure due to corrosion	3,570	148	Southeast towards Big Bear Creek.	Containment berm
	Pinhole leak, or leak at connection	48	2	Southeast towards Big Bear Creek.	
Flowlines and Piping associated with wells	Rupture/failure due to corrosion	3,570	148	Southeast towards Big Bear Creek.	None; See Oil Spill Contingency Plan

Source	Type of failure	Maximum Volume (gal)	Maximum Discharge Rate (gal/hr)	Direction of Flow	Containment
	Pinhole leak, or leak at connection	48	2	Southeast towards Big Bear Creek.	None; See Oil Spill Contingency Plan
Wells					
Polished rod stuffing box, valves, fittings, gauges	Leak	24	1	Southeast towards Big Bear Creek.	Well pad
Saltwater Disposal					
Piping/hoses, pumps, valves	Leak	24	1	Southeast towards Big Bear Creek.	Containment berm
Transfers and Loading Operations					
Transport truck loading hose	Rupture	84	84	Southeast towards Big Bear Creek.	Downslope berm
Offload line, connection	Leak	42	1	Southeast towards Big Bear Creek.	Downslope berm
Tank truck	Over-topping while loading	1,680	1,680	Southeast towards Big Bear Creek.	Drainage ditch
Transfer valve	Rupture, leak of valve packing	3	3	Southeast towards Big Bear Creek.	Load line container, curb

3.2 Containment and Diversionary Structures [112.7(c) and 112.7(a)(3)(iii)]

The facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

- Secondary containment for the oil storage tanks, saltwater tank (which may have small amounts of oil), and gun barrel is provided by a 60 ft x 40 ft x 2.5 ft earthen berm that provides a total containment volume of 867 barrels (36,423 gallons), as described in Section 3.2.2 below. The berm is constructed of native soils and heavy clay that have been compacted, then covered with gravel. A clay layer in the shallow subsurface exists naturally and will stop any spilled oil from seeping to deeper groundwater.

- The tank truck loading area is flat but gently slopes to the southeast, where a crescent-shaped, open berm has been placed to catch any potential spills from tanker transport trucks. The bermed area provides a catchment basin of 40 barrels (1,680 gallons), the maximum expected amount of a spill from the tanker due to overtopping of the truck during loading. In addition, the end of the load line is equipped with a load line drip bucket designed to prevent small discharges that may occur when disconnecting the hose.

- Booms, sorbents, shovels, and other discharge response materials are stored in a shed located in close proximity to the loading area. This material is sufficient to contain small discharges (up to approximately 200 gallons).

These measures are described in more details in the following sections.

3.2.1 Oil Production Facility Drainage [112.9(b)]

Facility drainage in the production/separation area but outside containment berms is designed to flow into drainage ditches located on the eastern and southern boundaries of the site. These ditches usually run dry. The ditches are visually examined by facility personnel on a daily basis during routine facility rounds, during formal monthly inspections, and after rain events, to detect any discoloration or staining that would indicate the presence of oil from small leaks within the facility. Any accumulation of oil is promptly removed and disposed off site. Formal monthly inspections are documented.

Discharges from ASTs are restrained by the secondary containment berm, as described in Section 3.2.2 of this Plan. Discharges occurring during transfer operations will be contained at each well by the rock pad or will flow into the drainage ditch located at the facility.

3.2.2 Secondary Containment for Bulk Storage Containers [112.9(c)(2)]

In order to further minimize the potential for a discharge to navigable waters, bulk storage containers such as all tank battery, separation, and treating equipment are placed inside a 2.5-ft tall earthen berm (fire wall). The berm capacity exceeds the SPCC and Louisiana requirements. It provides secondary containment sufficient for the size of the largest tank, plus at least 1 ft of freeboard to contain precipitation. This secondary containment capacity is equivalent to 173 percent of the capacity of the largest tank within the containment area (500 barrels) and exceeds the 10 percent freeboard recommended by API for firewalls around production tanks (API-12R1). The amount of freeboard also exceeds the amount of precipitation anticipated at this facility, which is estimated to average 3.5 inches for a 24-hour, 25-year storm, based on data from the nearby Ridgeview Regional Airport. Details of the berm capacity calculation are provided in Table 3-2.

Table 3-2: Berm capacity calculations

Berm Capacity	
Berm height	2.5 ft
Berm dimensions	60 ft x 40 ft = 2,400 ft^2
Tank footprint	4 tanks @ 12 ft dia. each = 4 x (π 12^2/4) = 452 ft^2
Net volume	2.5 ft x (2,400 - 452) = 4,869 ft^3 = 36,423 gallons
Ratio to largest tank	36,423 / 21,000 = 173%
Corresponding Amount of Freeboard	
100% of tank volume	21,000 gallons = 2,807 ft^3
Net area (minus tank footprint)	2,400 ft^2 - 452 ft^2 = 1,948 ft^2
Minimum berm height for 100% of tank volume	2,807 ft^3 / 1,948 ft^2 = 1.44 ft
Freeboard	2.5 ft - 1.44 ft = 1.06 ft

The floor and walls of the berm are constructed of compacted earth with a layer of clay that ensures that the berm is able to contain the potential release of oil from the storage tanks until the discharge can be detected and addressed by field operations personnel. Facility personnel inspect the berm daily for the presence of oil. The sides of the berm are capped with gravel to minimize erosion.

The berm is equipped with a manual valve of open-and-closed design. The valve is used to drain the berm and is normally kept closed, except when draining water accumulation within the berm. Drainage from the berm flows into the drainage ditch to the south of the production/ separation area. All water is closely inspected by field operations personnel (who are the persons providing “responsible supervision”) prior to draining water accumulation to ensure that no free oil is present (i.e., there is no sheen or discoloration upon the surface, or a sludge or emulsion deposit beneath the surface of the water). The bypass valve for the containment structure is opened and resealed following drainage under the responsible supervision of field operations personnel. Free oil is promptly removed and disposed of in accordance with waste regulations. Drainage events are recorded on the form provided in Appendix D, including the time, date, and name of the employee who performed the drainage. The records are maintained with this SPCC Plan at the Ridgeview field office for a period of at least three years.

3.2.3 Practicability of Secondary Containment [112.7(d)]

Flowlines adjacent to the production equipment and storage tanks are located within the berm, and therefore have secondary containment. Aboveground flowlines that go from the wells to the production equipment and buried flowlines, however, lack adequate secondary containment.

The installation of double-wall piping, berms, or other permanent structures (e.g., remote impoundment) are impracticable at this facility due to the long distances involved and physical and road/fenceline right-of-way constraints. Additionally, such permanent structures would create land erosion and access problems for the landowner's farming operations and current uses of the land (e.g., agricultural production, animal grazing).

Other measures listed under 40 CFR 112.7(c) such as the use of sorbents are also impracticable as means of secondary containment since the volumes involved may exceed the sorbent capacity and the facility is attended for only a few hours each day.

Because secondary containment for flowlines outside of the tank battery is impracticable, Clearwater has provided with this Plan additional elements required under 40 CFR 112.7(d), including:

- A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful (see Appendix H).
- An Oil Spill Contingency Plan following the provisions of 40 CFR 109 (see Appendix I).

3.3 Other Spill Prevention Measures

3.3.1 Bulk Storage Containers Overflow Prevention [112.9(c)(4)]

The tank battery is designed with a fail-safe system to prevent discharge, as follows:

- The capacity of the oil storage tanks is sufficient to ensure that oil storage is adequate in the event where facility personnel are unable to perform the daily visit to unload the tanks or the pumper is delayed in stopping production. The maximum capacity of the wells linked to the tank battery is approximately 600 barrels per day. The oil tanks are sized to provide sufficient storage for at least two days.

- The tanks are connected with overflow equalizing lines to ensure that a full tank can overflow to an adjacent tank.

3.3.2 Transfer Operations and Saltwater Disposal System [112.9(d)]

All aboveground valves and piping associated with transfer operations are inspected daily by the pumper and/or tank truck driver, as described in Section 3.4 of this Plan. The inspection procedure includes observing flange joints, valve glands and bodies, drip pans, and pipe supports. The conditions of the pumping well polish rod stuffing boxes, and bleeder and gauge valves, are inspected monthly.

Components of the produced water disposal system are inspected on a monthly basis by field operation personnel as described in Section 3.4 and following the checklist provided in Appendix C of this SPCC Plan. This includes the pumps and motors for working condition and leaks, hoses, valves, flowlines, and the saltwater injection wellhead. Maintenance and operation of the well itself and the downhole injection comply with EPA's and the state's Underground Injection Control (UIC) rules and regulations (40 CFR parts 144-148).

3.4 Inspections, Tests, and Records [112.7(e)]

This Plan outlines procedures for inspecting the facility equipment in accordance with SPCC requirements. Records of inspections performed as described in this Plan and signed by the appropriate supervisor are a part of this Plan, and are maintained with this Plan at the Ridgeview field office for a minimum of three years. The reports include a description of the inspection procedure, the date of inspection, whether drainage of accumulated rainwater was required, and the inspector's signature.

The program established in this SPCC Plan for regular inspection of all oil storage tanks and related production and transfer equipment follows the American Petroleum Institute's *Recommended Practice for Setting Maintenance, Inspection, Operation, and Repair of Tanks in Production Service* (API RP 12R1, Fifth Edition, August 1997). Each container is inspected monthly by field operation personnel as described in this Plan section and following the checklist provided in Appendix C of this SPCC Plan. The monthly inspection is aimed at identifying signs of deterioration and maintenance needs, including the foundation and support of each container. Any leak from tank seams, gaskets, rivets, and bolts is promptly corrected.

This Plan also describes provisions for monitoring the integrity of flowlines through a combination of monthly visual inspections and periodic pressure testing or through the use of an alternate technology. The latter element is particularly important for this facility since flowlines do not have adequate secondary containment.

The inspection program is comprised of informal daily examinations, monthly scheduled inspections, and periodic condition inspections. Additional inspections and/or examinations are performed whenever an operation alert, malfunction, shell or deck leak, or potential bottom leak is reported following a scheduled examination. Written examination/inspection procedures and monthly examination/inspection reports are signed by the field inspector and are maintained at the field office for a period of at least three years.

3.4.1 Daily Examinations

The facility is visited daily by field operations personnel. The daily visual examination consists of a walk through of the tank battery and around the wells. Field operations personnel check the wells and production equipment for leaks and proper operation. They examine all aboveground valves, polished rod stuffing boxes, wellheads, fittings, gauges, and flowline piping at the wellhead. Personnel inspect pumps to verify proper function and check for damage and leakage. They look for accumulation of water within the tank battery berms and verify the condition and position of valves. The storage tanks are gauged every day. A daily production report is maintained. All malfunctions, improper operation of equipment, evidence of leakage, stained or discolored soil, etc. are logged and communicated to the Clearwater Field Operations Manager.

Table 3-3: Scope of daily examinations

Facility Area	Item	Observations
Storage Tanks (Oil and Produced water)	Leaks	Tank liquid level gauged Drip marks, leaks from weld seams, base of tank Puddles containing spilled or leak material Corrosion, especially at base (pitting, flaking) Cracks in metal Excessive soil or vegetation buildup against base
	Foundation problems	Cracks Puddles containing spilled or leaked material Settling Gaps at base
	Flowlines problems	Evidence of leaks, especially at connections/collars Corrosion (pitting, flaking) Settling Evidence of stored material seepage from valves or seals
Wells	Leak	Evidence of oil seepage from pumping rod stuffing boxes, wellhead and wellhead flowlines, valves, gauges
SW Pumps	Leaks	Leaks at seals, flowlines, valves, hoses Puddles containing spilled or leaked material Corrosion

3.4.2 Monthly Inspections

Table 3-4 summarizes the scope of monthly inspections performed by field personnel.

The monthly inspection covers the wellheads, flowlines, and all processing equipment. It also includes verifying the proper functioning of all detection devices, including high-level sensors on oil storage tanks, heater treater, and separators. Storage tanks are inspected for signs of deterioration, leaks, or accumulation of oil inside the containment area, or other signs that maintenance or repairs are needed. The secondary containment area is checked for proper drainage, general conditions, evidence of oil, or signs of leakage. The monthly inspection also involves visually inspecting all aboveground valves and pipelines and noting the general condition of items such as transfer hoses, flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, pumping well pumping rod stuffing boxes, bleeder and gauge valves, locking of valves, and metal surfaces.

The checklist provided in Appendix C is used during monthly inspections. These inspections are performed in accordance with written procedures such as API standards (e.g., API RP 12R1), engineering specifications, and maintenance schedule developed by the equipment manufacturers.

All safety devices are tested quarterly by a third party inspector. The tests are recorded and the results are maintained with this Plan at Clearwater's field office. Testing of the safety devices is conducted in accordance with guidelines API RP-14C published by the American Petroleum Institute, or in accordance with instructions from the device's manufacturer. Written test procedures are kept at the offices of the third party testing company and are available upon request.

Twice a year, facility personnel drive to the pre-established response staging areas located at three different points along Big Bear Creek (see Oil Spill Contingency Plan in Appendix I) to ensure that the dirt/gravel roads are accessible using field vehicles and that the Oil Spill Contingency Plan can be implemented in the event of a discharge from flowlines reaching the Creek.

Table 3-4: Scope of monthly inspections

Facility Area	Equipment	Inspection Item
Tank Battery	Storage tanks	Leakage, gaskets, hatches Tank liquid level checked Tank welds in good condition Vacuum vents Overflow lines Piping, valves, and bull plugs Corrosion, paint condition Pressure / level safety devices* Emergency shut-down system(s)* Pressure relief valves*
	Area	Berm and curbing Presence of contaminated/stained soil Excessive vegetation Equipment protectors and signs Engine drip pans and sumps General housekeeping
Truck Loading	Offload lines, drip pans, valves, catchment berm	Valve closed and in good condition Cap or bull plug at end of offload line/connection Sign of oil or standing water in drip pan(s) Sign of oil or standing water in catchment berm Sign of oil in surrounding area
	Production equipment	Gauges (pressure, temperature, and liquid level) Pressure / level safety devices* Emergency shut-down system(s)* Pressure relief valves*
Wells (including saltwater disposal well)	Area	Spills and leaks (e.g., stuffing box) Equipment protectors and signs General housekeeping

Facility Area	Equipment	Inspection Item
Leasehold area between wells and Tank Battery	Flowlines	Flowline between the well and tank battery/gun barrel Exposed line of buried piping Valves (condition of, whether locked or sealed) Evidence of leaks and/or damage, especially at connections/collars Corrosion (pitting, flaking) Pipe supports
	Road and Field Ditches	Evidence/puddles of crude oil and/or produced water
Other	Chemicals, Fuels and Lube Oils	Storage conditions
Response staging areas	Area	Road practicable by field vehicle Area clear of excessive vegetation
* Tested quarterly by third party inspection company.		

3.4.3 Periodic Condition Inspection of Bulk Storage Containers

A condition inspection of bulk storage containers is performed by a qualified inspector according to the schedule and scope specified in API RP 12R1. The schedule is determined based on the corrosion rate; with the first inspection performed no more than 15 years after the tank construction, as detailed in Table 3-5.

Three bulk storage containers installed at this facility were moved from another facility decommissioned by Clearwater. These bulk storage containers were leak tested after relocation to the facility.

Table 3-5: Schedule of periodic condition inspection of bulk storage containers

Tank	Year Built	Last Inspection	Next inspection by
#1	1983	11/5/1998	11/5/2008*
#2	2002	None	First inspection to be performed by 12/31/2017*
#3	1995	None	First inspection to be performed by 12/31/2010*
#4	2002	None	First inspection to be performed by 12/31/2017*
#5	1991	None	First inspection to be performed by 12/31/2006*

* Dates for subsequent external inspections must follow the recommendations of the certified inspector, not to exceed three-quarters of the predicted shell/roof deck corrosion rate life, or maximum of 15 years.

3.4.4 Brittle Fracture Evaluation [112.7(i)]

At the present time, none of the bulk storage containers at this site was field-erected, and therefore no brittle fracture evaluation is required.

3.4.5 Flowline Maintenance Program [112.9(d)(3)]

Because the facility is relying on a contingency plan to address discharges, the flowline maintenance program is specifically implemented to maintain the integrity of the primary container (in this case piping) to minimize releases of oil from this part of the production facility. The facility's gathering lines and flowlines are configured, inspected monthly for leaks at connections and on each joint, corrosion (pitting, flaking), and maintained to minimize the potential for a discharge as summarized in Table 3-6. Records of integrity inspections, leak tests, and part replacements are kept at the facility for at least three years (integrity test results are kept for ten years).

Table 3-6: Components of flowline maintenance program

Component	Measures/Activities
Configuration	• Well pumps are equipped with low-pressure shut-off systems that detect pressure drops and minimize spill volume in the event of a flowline leak. • Flowlines are identified on facility maps and are marked in the field to facilitate access and inspection by facility personnel. Flowline maps and field tags indicate the location of shutdown devices and valves that may be used to isolate portions of the flowline. • With the exception of a portion of Flowline B under an access road, the flowlines and appurtenances (valves, flange joints, supports) can be visually observed for signs of leakage, deterioration, or other damage.
Inspection	• Lines are visually inspected for leaks and corrosion as part of the monthly rounds by field personnel, as discussed in Section 3.4 above. • The buried portions of Flowline B are coated/wrapped and visually observed for damage or coating condition whenever they are repaired, replaced, or otherwise exposed. • Every five years, flowlines are tested using ultrasonic techniques to determine remaining wall thickness and mechanical integrity. Copies of test results are maintained at the facility for ten years to allow comparison of successive tests.
Maintenance	• Any leak in the flowline or appurtenances is promptly addressed by isolating the damaged portion and repairing or replacing the faulty piece of equipment. Clearwater does not accept pipe clamps and screw-in plugs as forms of repair. • Any portion of a flowline that fails the mechanical integrity test is repaired and retested, or replaced.

3.5 Personnel, Training, and Discharge Prevention Procedures [112.7(f)]

The Field Operations Manager has been designated as the point of contact for all oil discharge prevention and response at this facility.

All Clearwater field personnel receive training on proper handling of oil products and procedures to respond to an oil discharge prior to entering any Clearwater production facility. The training ensures that all facility personnel understand the procedures described in this SPCC Plan and are informed of the requirements under applicable pollution control laws, rules and regulations. The training also covers risks associated with potential exposure to hydrogen sulfide (H_2S) gas.

All Clearwater field personnel also receive an initial 40-hour HAZWOPER training (and 8-hour annual refresher training) as per OSHA standard.

Clearwater ensures that all contractor personnel are familiar with the facility operations, safety procedures, and spill prevention and control procedures described in this Plan prior to working at the facility. All contractors working at the facility receive a copy of this SPCC Plan. Avonlea personnel visiting the facility receive training similar to that provided to Clearwater oil handling employees.

Clearwater management holds briefings with field operations personnel (including contractor personnel as appropriate) at least once a year, as described below.

3.5.1 Spill Prevention Briefing

The Field Operations Manager conducts Spill Prevention Briefings annually to ensure adequate understanding and effective implementation of this SPCC Plan. These briefings highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures. The briefings are conducted in conjunction with the company safety meetings. Sign-in sheets, which include the topics of discussion at each meeting, are maintained with this Plan at Clearwater's field office. A *Discharge Prevention Briefing Log* form is provided in Appendix E to this Plan and is used to document the briefings. The scheduled annual briefing includes a review of Clearwater policies and procedures relating to spill prevention, control, cleanup, and reporting; procedures for routine handling of products (e.g., loading, unloading, transfers); SPCC inspections and spill prevention procedures; spill reporting procedures; spill response; and recovery, disposal, and treatment of spilled material.

Personnel are instructed in operation and maintenance of equipment to prevent the discharge of oil, and in applicable federal, state, and local pollution laws, rules, and regulations. Facility operators and other personnel have an opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

The general outline of the briefings is as follows:

- Responsibilities of personnel and Designated Person Accountable for Spill Prevention;
- Spill prevention regulations and requirements;
- Spill prevention procedures;
- Spill reporting and cleanup procedures;
- History/cause of known spill events;
- Equipment failures and operational issues;
- Recently developed measures/procedures;
- Proper equipment operation and maintenance; and
- Procedures for draining rainwater from berms.

3.5.2 Contractor Instructions

In order that there will be no misunderstanding on joint and respective duties and responsibilities to perform work in a safe manner, contractor personnel also receive instructions on the procedures outlined in this SPCC Plan. The instructions cover the contractor activities such as servicing a well or equipment associated with the well, such as pressure vessels.

All contractual agreements between Clearwater and contractors specifically state:

> Personnel must, at all times, act in a manner to preserve life and property, and prevent pollution of the environment by proper use of the facility's prevention and containment systems to prevent hydrocarbon and hazardous material spills. No pollutant, regardless of the volume, is to be disposed of onto the ground or water, or allowed to drain into the ground or water. Federal regulations impose substantial fines and/or imprisonment for willful pollution of navigable waters. Failure to report accidental pollution at this facility, or elsewhere, can be cause for equally severe penalties to be imposed by federal regulations. To this end, all personnel must comply with every requirement of this SPCC Plan, as well as taking necessary actions to preserve life, and property, and to prevent pollution of the environment. It is the contractor's (or subcontractor's) responsibility to maintain his equipment in good working order and in compliance with this SPCC Plan. The contractor (or subcontractor) is also responsible for the familiarity and compliance of his personnel with this SPCC Plan. Contractor and subcontractor personnel must secure permission from Clearwater's Field Operations Manager before commencing any work on any facility. They must immediately advise the Field Operations Manager of any hazardous or abnormal condition so that the Field Operations Manager can take corrective measures.

APPENDIX A: Facility Diagrams

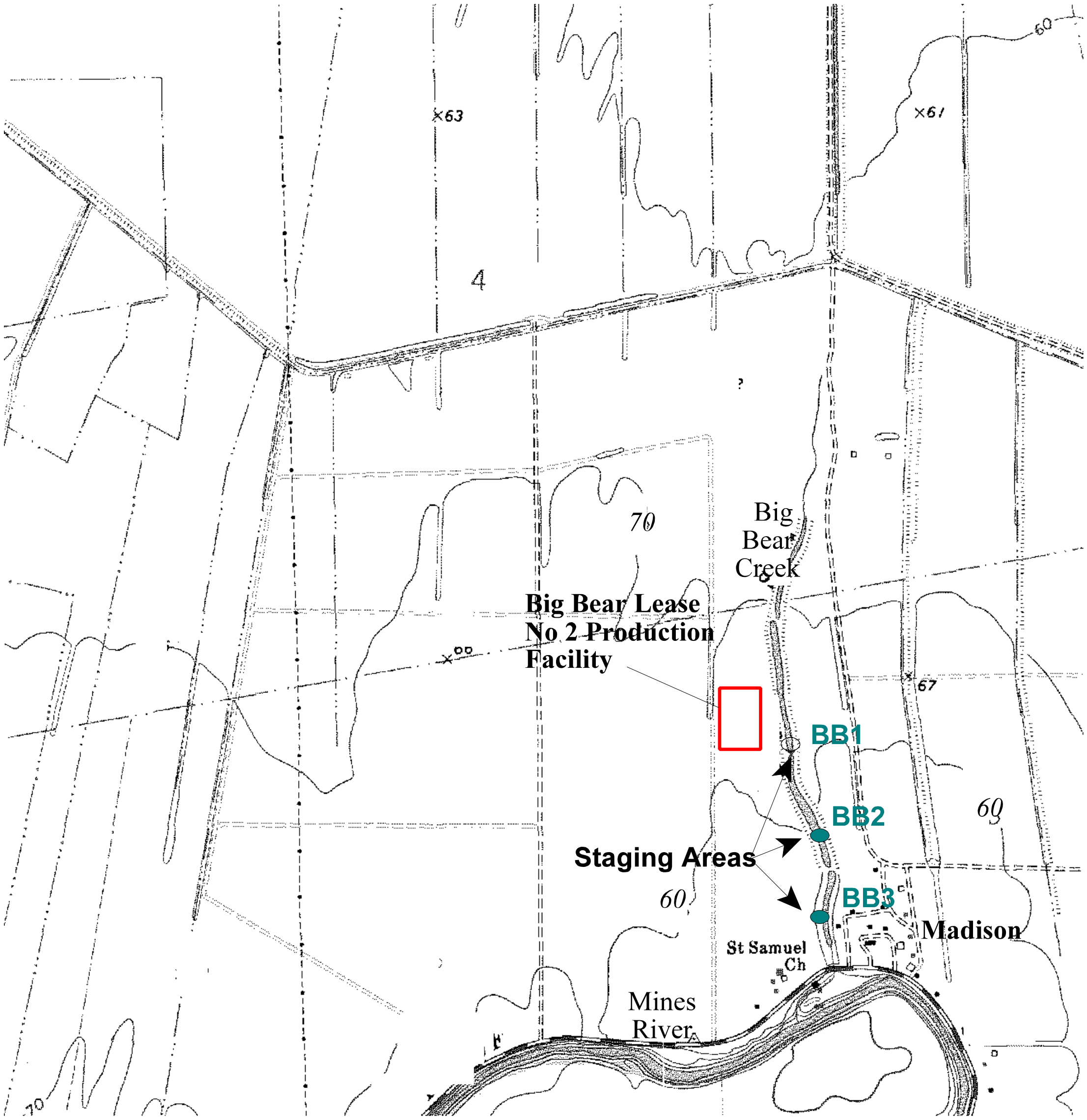

Figure A-1: Site plan.

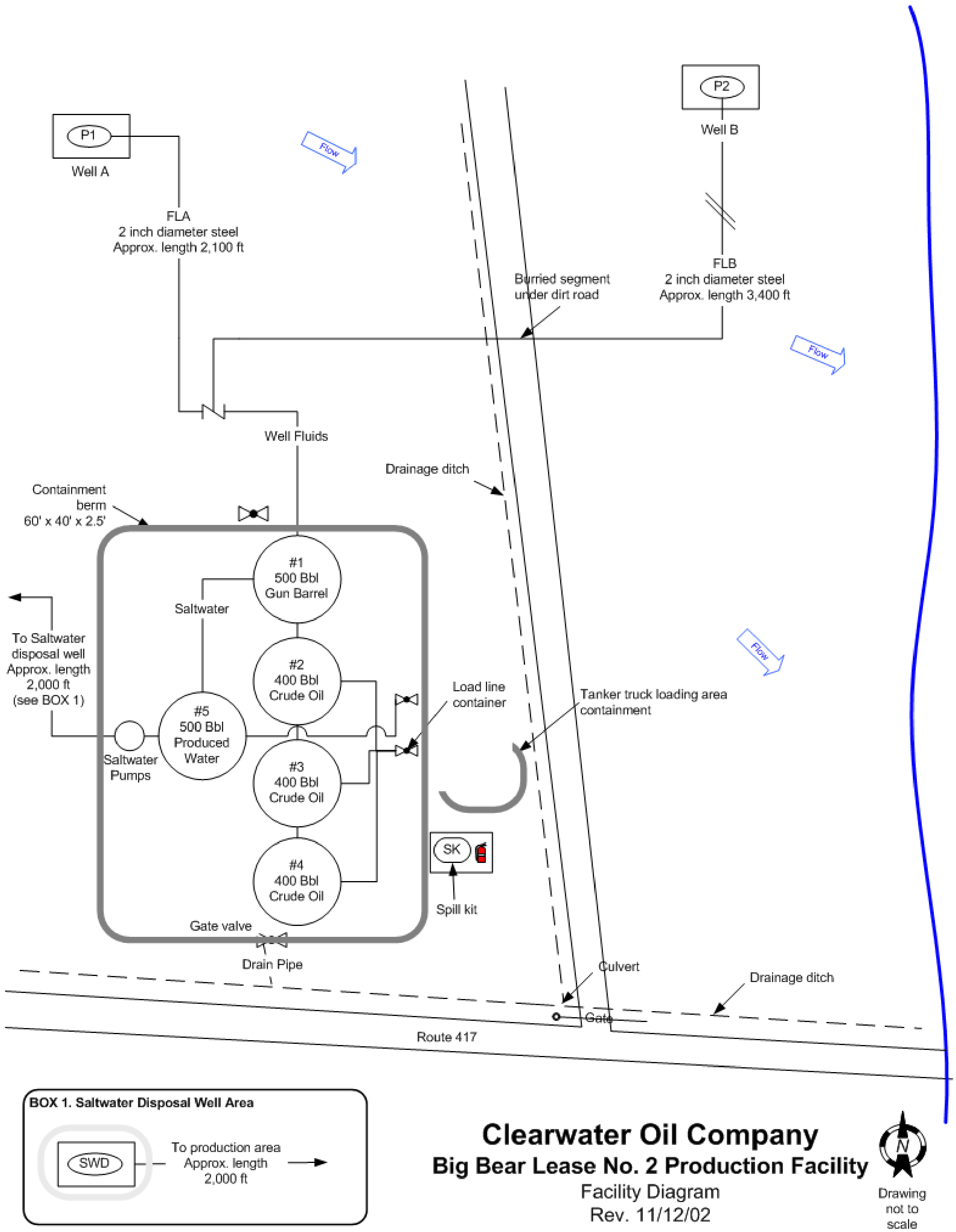

Figure A-2: Production Facility Diagram.

APPENDIX B: Tank Truck Loading Procedures

Loading Tank Truck

Make sure the vehicle tank is properly vented before starting to load or unload. If you are not certain that the trailer is properly vented, you must contact your supervisor and request permission to open the trailer dome before starting to load or unload.

To Load from Storage Tank to Tank Truck

- Attach ground cable or bonding clamp to trailer.
- Use wheel chocks or other similar barrier to prevent premature departure.
- Hook up load hose and open all appropriate valves from storage tank to trailer entry.
- Disengage clutch and place pump in load position.
- Release clutch slowly.
- Adjust throttle to proper engine RPM.
- When trailer is loaded to appropriate level, slow engine speed.
- Close valve to storage tank.
- Loosen loading hose to allow enough air to drain loading hose dry.
- Ensure that drips from the hose drain into the spill bucket at the loading area.
- Disconnect loading hose completely, close load valve, plug and fasten securely.
- Close belly valve on trailer.
- Disconnect ground cable.
- Promptly clean up any spilled oil.
- Inspect lowermost drains and valves of the vehicle for discharges/leaks and ensure that they are tightened, adjusted, or replaced as needed to prevent discharges while vehicle is in transit.

APPENDIX C: Monthly Inspection Checklist

Further description and comments, if needed, should be provided on a separate sheet of paper and attached to this sheet. Any item answered "YES" needs to be promptly reported, repaired, or replaced, as it may result in non-compliance with regulatory requirements. Records are maintained with the SPCC Plan at the Ridgeview field office.

Date: ________________ Signature: ___________________________

	Yes	No	Description & Comments (Note tank/equipment ID)
Storage tanks and Separation Equipment			
Tank surfaces show signs of leakage			
Tanks show signs of damage, rust, or deterioration			
Bolts, rivets or seams are damaged			
Aboveground tank supports are deteriorated or buckled			
Aboveground tank foundations have eroded or settled			
Gaskets are leaking			
Level gauges or alarms are inoperative			
Vents are obstructed			
Thief hatch and vent valve does not seal air tight			
Containment berm shows discoloration or stains			
Berm is breached or eroded or has vegetation			
Berm drainage valves are open/broken			
Tank area clear of trash and vegetation			
Equipment protectors, labels, or signs are missing			
Piping/Flowlines and Related Equipment			
Valve seals or gaskets are leaking.			
Pipelines or supports are damaged or deteriorated.			
Buried pipelines are exposed.			
Transfer equipment			
Loading/unloading lines are damaged or deteriorated.			
Connections are not capped or blank-flanged			
Secondary containment is damaged or stained			
Response Kit Inventory			
Discharge response material is missing or damaged or needs replacement			

Additional Remarks (attach sheet as needed):

APPENDIX D: Record of Dike Drainage

This record must be completed when rainwater from diked areas is drained into a storm drain or into an open watercourse, lake, or pond, and bypasses the water treatment system. The bypass valve must normally be sealed in closed position and opened and resealed following drainage under responsible supervision. Records are maintained with the SPCC Plan at the Ridgeview field office.

Date	Area	Presence of Oil	Time Started	Time Finished	Signature
12/5/2003	Tank battery	No oil	08:00	8:40	William Mackenzie

APPENDIX E: Discharge Prevention Briefing Log

Date	Type of Briefing	Instructor(s)
12/5/2003	Scheduled refresher. All field personnel.	Helena Berry, Optimal H&S Inc.
11/25/2004	Scheduled refresher. All field personnel.	Bill Laurier

APPENDIX F: Discharge Notification Procedures

Circumstances, instructions, and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local agencies, and to other affected parties, are provided below. They are also posted at the facility in the storage shed containing the discharge response equipment. Note that any discharge to water must be reported immediately to the National Response Center.

Field Operations Manager, Bill Laurier (24 hours) (405) 829-4051

Local Emergency (fire, explosion, or other hazards) 911

Agency / Organization	Agency Contact	Circumstances	When to Notify
Federal Agencies			
National Response Center	1-800-424-8802	Discharge reaching navigable waters.	**Immediately (verbal)**
EPA Region VI (Hotline)	1-800-887-6063		**Immediately (verbal)**
EPA Region VI Regional Administrator	First Interstate Bank Tower at Fountain Place 1445 Ross Avenue, 12th floor, Suite 1200 Dallas TX 75202	Discharge 1,000 gallons or more; or second discharge of 42 gallons or more over a 12-month period.	Written notification within 60 days (see Section 2.1 of this Plan)
State Agencies			
Office of State Police, Transportation and Environmental Safety Section, Hazardous Materials Hotline	225-925-6595 or 1-877-925-6595	1) Injury requiring hospitalization or fatality. 2) Fire, explosion, or other impact that could affect public safety. 3) Release exceeding 24-hour reportable quantity. 4) Impact to areas beyond the facility's confines.	**Immediately (verbal)** Written notification to be made within 5 days.
Office of State Police, Transportation and Environmental Safety Section, Hazardous Materials Hotline	225-925-6595 or 1-877-925-6595	Discharges that pose emergency conditions, regardless of the volume discharged.	**Within 1 hour** of discovery (verbal). Written notification within 7 working days.
Louisiana Department of Environmental Quality, Office of Environmental Compliance	225-763-3908 or 225-342-1234 (after business hours, weekends and holidays)	Discharges that do not pose emergency conditions.	Within 24 hours of discovery (verbal). Written notification within 7 working days.

Agency / Organization	Agency Contact	Circumstances	When to Notify
Local Agencies			
St. Anthony's Parish Emergency Planning Committee	337-828-1960	Any discharge of 100 lbs or more that occur beyond the boundaries of the facility, including to the air.	**Immediately (verbal)** Written notification within 7 days.
Others			
Response/cleanup contractors	EZ Clean (800) 521-3211 Armadillo Oil Removal Co. (214) 566-5588	Any discharge that exceeds the capacity of facility personnel to respond and cleanup.	As needed
Howard Fleming Farm (agricultural irrigation intake)	(405) 235-6893	Any discharge that threatens to affect neighboring properties and irrigation intakes.	As needed

The person reporting the discharge must provide the following information:

- Name, location, organization, and telephone number;
- Name and address of the owner/operator;
- Date and time of the incident;
- Location of the incident;
- Source and cause of discharge;
- Types of material(s) discharged;
- Total quantity of materials discharged;
- Quantity discharged in harmful quantity (to navigable waters or adjoining shorelines);
- Danger or threat posed by the release or discharge;
- Description of all affected media (e.g., water, soil);
- Number and types of injuries (if any) and damaged caused;
- Weather conditions;
- Actions used to stop, remove, and mitigate effects of the discharge;
- Whether an evacuation is needed;
- Name of individuals and/or organizations contacted; and
- Any other information that may help emergency personnel respond to the incident.

Whenever the facility discharges more than 1,000 gallons of oil in a single event, or discharges more than 42 gallons of oil in each of two discharge incidents within a 12-month period, the Manager of Field Operations must provide the following information to the U.S. Environmental Protection Agency's Regional Administrator within 60 days:

- Name of the facility;
- Name of the owner or operator;
- Location of the facility;

- Maximum storage or handling capacity and normal daily throughput;
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements;
- Description of facility, including maps, flow diagrams, and topographical maps;
- Cause of the discharge(s) to navigable waters, including a failure analysis of the system and subsystems in which the failure occurred;
- Additional preventive measures taken or contemplated to minimize possibility of recurrence; and
- Other pertinent information requested by the Regional Administrator.

Discharge Notification Form

*** Notification must not be delayed if information or individuals are not available.

Facility: Clearwater Oil Company Big Bear Lease No. 2 Production Facility
5800 Route 417, Madison, Louisiana 73506

Description of Discharge		
Date/time	Release date: Release time: Duration:	Discovery date: Discovery time:
Reporting Individual	Name: Tel. #:	
Location of discharge	Latitude: Longitude:	Description:
Equipment source	☐ piping ☐ flowline ☐ well ☐ unknown ☐ stock, flare	Description: Equipment ID:
Product	☐ crude oil ☐ saltwater ☐ other*	* Describe other:
Appearance and description		
Environmental conditions	Wind direction: Wind speed:	Rainfall: Current:
Impacts		
Quantity	Released:	Recovered:
Receiving medium	☐ water** ☐ land ☐ other (describe):	☐ Release confined to company property. ☐ Release outside company property. ** If water, indicate extent and body of water:
Describe circumstances of the release		
Assessment of impacts and remedial actions		
Disposal method for recovered material		
Action taken to prevent incident from reoccurring		
Safety issues	☐ Injuries ☐ Fatalities ☐ Evacuation	

Notifications		
Agency	**Name**	**Date/time reported & Comments**
Company Spill Response Coordinator		
National Response Center 1-800-424-8802		
State police		
Parish Emergency Response Commission		
oil spill removal organization/cleanup contractor		

APPENDIX G: Equipment Shut-off Procedures

Source	Action
Manifold, transfer pumps or hose failure	Shut in the well supplying oil to the tank battery if appropriate. Immediately close the header/manifold or appropriate valve(s). Shut off transfer pumps.
Tank overflow	Shut in the well supplying oil to the tank battery. Close header/manifold or appropriate valve(s)
Tank failure	Shut in the well supplying oil to the tank battery. Close inlet valve to the storage tanks.
Flowline rupture	Shut in the well supplying oil to the flowline. Close nearest valve to the rupture site to top the flow of oil.
Flowline leak	Shut in the well supplying oil to the flowline. Immediately close the nearest valve to stop the flow of oil to the leaking section.
Explosion or fire	Immediately evacuate personnel from the area until the danger is over. Immediately shut in both wells if safe to do so. If possible, close all manifold valves. If the fire is small enough such that it is safe to do so, attempt to extinguish with fire extinguishers available on site.
Equipment failure	Immediately close the nearest valve to stop the flow of oil into the leaking area.

APPENDIX H: Written Commitment of Manpower, Equipment, and Materials

In addition to implementing the preventive measures described in this Plan, Clearwater will also specifically:

- In the event of a discharge:
    - Make available all trained field personnel (three employees) to perform response actions
    - Obtain assistance from an additional three full-time employees from its main operations contractor (Avonlea Services)
    - Collaborate fully with local, state, and federal authorities on response and cleanup operations
- Maintain all on-site oil spill control equipment described in this Plan and in the attached Oil Spill Contingency Plan. The equipment is estimated to contain oil spills of up to 500 gallons.
- Maintain all communications equipment in operating condition at all times.
- Ensure that staging areas to be used in the event of a discharge to Big Bear Creek are accessible by field vehicles.
- Review the adequacy of on-site and third-party response capacity with pre-established response/cleanup contractors on an annual basis and update response/cleanup contractor list as necessary.
- Maintain formal agreements/contracts with response and cleanup contractors who will provide assistance in responding to an oil discharge and/or completing cleanup (see contract agreements maintained separately at the Ridgeview field office and lists of associated equipment and response contractor personnel capabilities).

Authorized Facility Representative:	Bill Laurier
Signature:	*Bill Laurier*
Title:	Field Operations Manager

APPENDIX I: Oil Spill Contingency Plan

The oil spill contingency plan is maintained separately at the Ridgeview field office.

[Refer to the sample Contingency Plan also available from EPA for more information on the content and format of that Plan]

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APPENDIX F: SAMPLE CONTINGENCY PLAN

DISCLAIMER - APPENDIX F

The sample Contingency Plan in Appendix F is intended to provide examples of contingency planning as a reference when a facility determines that the required secondary containment is impracticable, pursuant to 40 CFR §112.7(d). The sample Contingency Plan presents a variety of scenarios for purposes of illustration only. It is not a template to be adopted by a facility; doing so does not mean that the facility will be in compliance with the SPCC rule requirements for a contingency plan. Nor is the sample plan a template that must be followed in order for the facility to be considered in compliance with the contingency plan requirement.

CLEARWATER OIL COMPANY
BIG BEAR LEASE NO. 2 PRODUCTION FACILITY
OIL SPILL CONTINGENCY PLAN

NOTE: Throughout this document, shaded boxes identify relevant sections of 40 CFR part 109 and part 112.

PART I
Introduction

1.1 Purpose and Scope

This Oil Spill Contingency Plan is prepared in accordance with 40 CFR 112.7(d) to address areas of the facility where secondary containment is impracticable, as documented in the facility Spill Prevention, Control, and Countermeasure (SPCC) Plan.

The purpose of this Oil Spill Contingency Plan ("Contingency Plan") is to define procedures and tactics for responding to discharges of oil into navigable waters or adjoining shorelines of the United States, originating more specifically from flowlines at Clearwater Oil Company ("Clearwater") Big Bear Lease No. 2 Production Facility. The Contingency Plan is implemented whenever a discharge of oil has reached, or threatens, navigable waters or adjoining shorelines.

The objective of procedures described in this Contingency Plan is to protect the public, Clearwater personnel, and other responders during oil discharges. In addition, the Plan is intended to minimize damage to the environment, natural resources, and facility installations from a discharge of oil. This Oil Spill Contingency Plan complements the prevention and control measures presented in the facility's SPCC Plan by addressing areas of the facility that have inadequate secondary containment and impacts that may result from a discharge from these areas. The facility implements a detailed and stringent flowline maintenance program to prevent leaks from the primary system (in this case, piping). Areas lacking adequate containment at the Big Bear Lease No. 2 Production Facility include the flowlines that run between the extraction wells and the tank battery area and between the tank battery area and the saltwater disposal area.

This Oil Spill Contingency Plan follows the content and organization of 40 CFR part 109 and describes the distribution of responsibilities and basic procedures for responding to an oil discharge and performing cleanup operations.

1.2 Resources at Risk

40 CFR 109.5(b)(1)

Clearwater's Big Bear Lease No. 2 Production Facility is located approximately 6 miles North of Madison, LA, within the Mines River watershed (see Figure C-1 in Appendix C). The waterways closest to the facility are Big Bear Creek, which flows approximately ½ mile to the east of the facility, and the Mines River, which flows 6 miles to the south in a west-to-east direction and receives water from Big Bear Creek. The facility diagram included in Appendix C (Figure C-2) indicates the location of the oil extraction, production, and storage areas. Ground cover at the facility consists of compacted soil, gravel, and low lying vegetation. The natural topography of the land is graded in an east-southeast direction, and all surface drainage from the facility therefore flows towards Big Bear Creek. The slope is relatively mild: approximately 4 feet vertical per mile (5,280 feet) horizontal.

Three flowlines (which contain oil) at the facility lack adequate secondary containment (see Figure C-2):

- **Flowline A.** The flowline from Well A to the tank battery (FLA) is approximately 2,100 feet long. It runs aboveground in a north-south direction to the tank battery area.

- **Flowline B.** The flowline between Well B and the tank battery (FLB) is approximately 3,400 feet long. It travels in a southwest direction to the tank battery area. This flowline runs the closest to navigable waters. At the closest point, the flowline is located ½ mile from Big Bear Creek.

- **Flowline SWD.** The flowline between the tank battery and the saltwater disposal well is approximately 2,000 feet long. It runs in an east-west direction.

All three flowlines are aboveground, with the exception of a short portion of Flowline B that is buried under the dirt/gravel access road. A drainage ditch runs along the access road to the east of the tank battery and along Route 417. The ditch flows into Big Bear Creek. Given the direction of surface drainage, a discharge from any of the three flowlines could reach Big Bear Creek, either directly or via the drainage ditch, and from there, flow southward to the Mines River.

Neither Big Bear Creek nor the Mines River is used as a public drinking water supply, although animals grazing on the nearby land are often seen drinking from Big Bear Creek and the Howard Fleming Farm has an agricultural irrigation intake on Big Bear Creek (see the Notification Form later in this Plan for contact information). The two waterways, however, provide habitat for a number of aquatic species and mammals and are used by local residents for recreational purposes. The Mines River runs through the center of Madison. Recreational and scenic areas are located on both banks of the river.

A public park is located approximately 1 mile east from the town center and 8 miles from the facility. Recreational uses on the Mines River include picnic areas, walking trails, canoeing, and nature watching.

There are no residences within the immediate vicinity of the facility. The closest residence is located 1 mile to the north of the site, upstream on Big Bear Creek. The closest residence downstream from the site is located 3 miles away. Both residences have private drinking water wells. Clearwater will coordinate with the Madison fire and/or police departments and with its residential neighbors to provide the appropriate warnings in the event of a discharge that could affect public health and safety.

1.3 Risk Assessment

The facility is comprised of approximately 7,500 feet of 2-inch diameter flowlines. With the exception of a short road crossing, the flowlines are located aboveground. The flowlines do not have secondary containment, since such containment is impracticable at this facility (see discussion on impracticability of secondary containment in the facility's SPCC Plan).

40 CFR 109.5(c)(2)

The total daily production rate at the facility varies, but can reach as much as 1,260 gallons of crude oil and 5,880 gallons of produced water. The two wells have approximately equal production rates (each 3,570 gallons per day). Flowline B, the longest of the three flowlines and the one closest to navigable waters, contains up to 555 gallons of oil/water when charged. The facility is visited daily. For planning purposes, the worst-case discharge is therefore the volume of oil within the flowline plus 24 hours of production, or 4,125 gallons.

A discharge of this quantity of oil could potentially reach Big Bear Creek. The velocity of oil over land is estimated, based on past experience and a simple calculation of flow over short grass pastureland, at approximately 0.2 feet/second.[1] Considering the distance between Flowline B and Big Bear Creek (½ mile) and the 2-foot elevation gradient, the oil, if unimpeded, could reach Big Bear Creek in as little as 4 hours. The water current in Big Bear Creek averages approximately 0.3 feet/second during high stages. Over a 24-hour period, the oil could travel approximately 5 miles downstream from the release point. The Mines River, which is located only 6 miles downstream to the south of the tank battery area, could therefore possibly be affected by a discharge.

[1] Calculated using sheet flow transport equations.

1.4 Response Strategy

Clearwater personnel and contractors are equipped and trained to respond to certain “minor discharges” confined within the facility. Minor discharges can generally be described as those where the quantity of product discharged is small, the discharged material can be easily stopped and controlled, the discharge is localized, and the product is not likely to seep into groundwater or reach surface water or adjoining shorelines. Procedures for responding to these minor discharges are covered in the SPCC Plan.

This Contingency Plan addresses all discharge incidents, including those that affect navigable waters or during which the oil cannot be safely controlled by facility personnel and confined within the boundaries of the facility. Response to such incidents may necessitate the assistance of outside contractors or other responders to prevent imminent impact to navigable waters.

PART II
Spill Discovery and Response

2.1 Distribution of Responsibilities

Clearwater has the primary responsibility for providing the initial response to oil discharge incidents originating from its facility. To accomplish this, Clearwater has designated the Field Operations Manager, Bill Laurier, as the qualified oil discharge Response Coordinator (RC) in the event of an oil discharge.

The RC plays a central coordinating role in any emergency situation, as illustrated in the emergency organization chart in Figure 2-1.

40 CFR 109.5(b)(2)

The RC has the authority to commit the necessary services and equipment to respond to the discharge and to request assistance from Madison fire and/or police departments, contractors, or other responders, as appropriate.

The RC will direct notifications and initial response actions in accordance with training and capabilities. In the event of a fire or emergency situation that threatens the health and safety of those present at the site, the RC will direct evacuations and contact the fire and police departments.

In the event of an emergency involving outside response agencies, the RC's primary responsibility is to provide information regarding the characteristics of the materials and equipment involved and to provide access to Clearwater resources as requested. The RC shall also take necessary measures to control the flow of people, emergency equipment, and supplies and obtain the support of the Madison Police Department as needed to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the RC serves as the coordinator for radio communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. The RC has access to reference material at the field office either as printed material or on computer files that can further assist the response activities.

Whenever circumstances permit, the RC transmits assessments and recommendations to Clearwater Senior Management for direction. Senior Management is contacted in the following order: (1) Regional Director of Operations; (2) Vice-President of Operations.

In the event that the Field Operations Manager is not available, the responsibility and authority for initiating a response to a discharge rests with the most senior Clearwater employee on site at the time the discharge is discovered (Crew Lead) or with the contractor Field Supervisor (or next person in command) if contractor personnel are the only personnel on site.

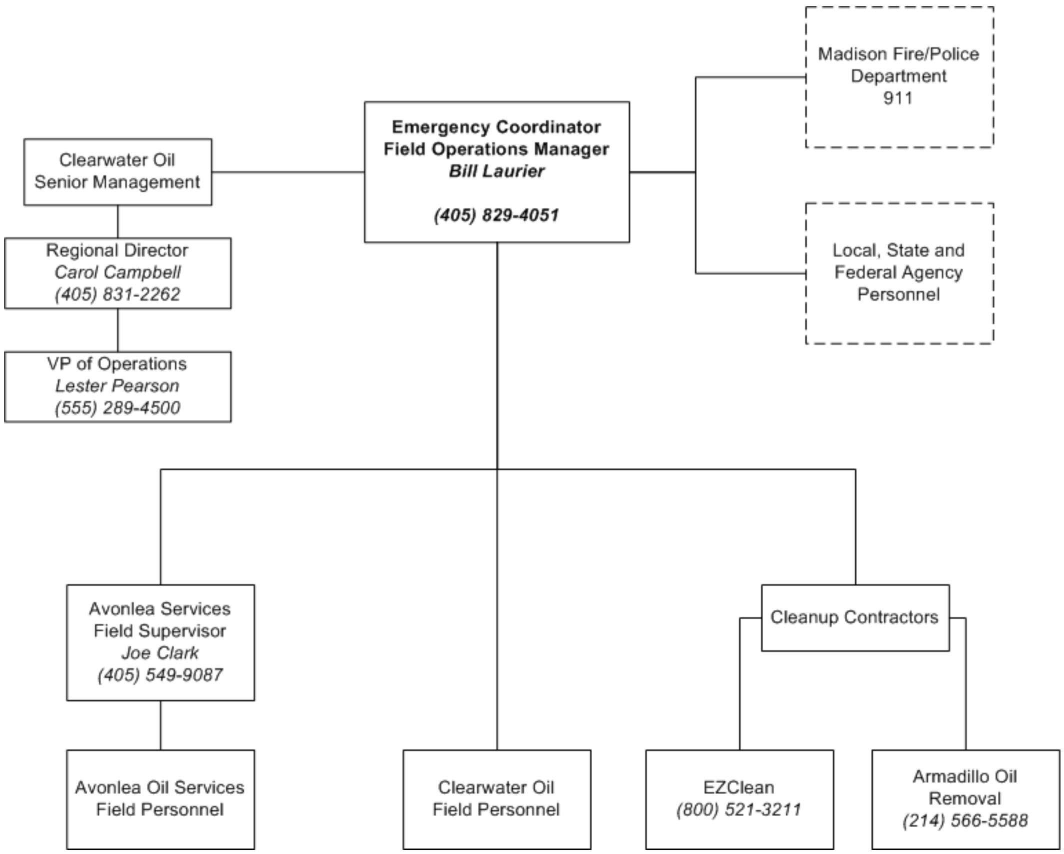

Figure 2-1. Distribution of response authority and communication.

2.2 Response Activities

40 CFR 109.5(d)
40 CFR 109.5(e)

In the event of a discharge, the first priority is to stop the product flow and to shut off all ignition sources, followed by the containment, control, and mitigation of the discharge. This Contingency Plan breaks actions to be performed to respond to an oil discharge into different phases, described in greater detail in the checklists below.

2.2.1 Discharge Discovery and Source Control

Minor Discharge. A minor discharge (i.e., small volume leak from flowlines or other equipment) will be discovered by Clearwater facility personnel or by contractor personnel during scheduled daily or monthly visits to the facility. Aboveground flowlines are visually inspected formally once a month during the normal inspection rounds.

Major Discharge. A more severe and sudden discharge will trigger the automatic shut down of the pumping units and will affect oil production. The impact will be detected during the daily visit to the production area by Clearwater or contractor field personnel. The maximum amount of time until a major discharge is detected can be up to 24 hours.

Notifications to the National Response Center, Louisiana authorities, and St. Anthony's Parish Emergency Committee must occur immediately upon discovery of reportable discharges.

Completed	Actions
	Immediately report the discharge to the RC, providing the following information: • Exact location; • Material involved; • Quantity involved; • Topographic and environmental conditions; • Circumstances that may hinder response; and • Injuries, if any.
	Turn off all sources of ignition.
	Turn off lift pumps that charge or provide flow to the flowline.
	Locate the flowline break.
	If safe to do so, isolate the affected section of piping by closing off the closest valves upstream and downstream from the break.

2.2.2 Assessment and Notifications

Completed	Actions
	Investigate the discharge to assess the actual or potential threat to human health or the environment: • Location of the discharge relative to receiving waterbodies; • Quantity of spilled material; • Ambient conditions (temperature, rain); • Other contributing factors such as fire or explosion hazards; and • Sensitive receptors downstream.
	Request outside assistance from local emergency responders, as needed.
	Evaluate the need to evacuate facility and evacuate employees, as needed.
	Notify the fire/police departments and St. Anthony's Parish Emergency Committee to assess whether community evacuation is needed.
	Notify immediately: • 911 • National Response Center • Response contractor(s) • St. Anthony's Parish Emergency Planning Committee • State authorities
	Communicate with neighboring property owners regarding the discharge and actions taken to mitigate the damage.
	If the oil reaches (or threatens to reach) the Mines River, notify the local fire/police departments to limit access to the River by local residents until the oil has been contained and recovered. Additionally, notify downstream water users of the spill and of actions that will be taken to protect these downstream receptors.

2.2.3 Control and Recovery

The RC directs the initial control of the oil flow by Clearwater, Avonlea Oil Services, and other contractor personnel. The actions taken will depend on whether the oil has reached water or is still on land. All effort will be made to prevent oil from reaching water.

If the oil has not yet reached water:

Completed	Actions
	Deploy sand bags and absorbent socks downgradient from the oil, or erect temporary barriers such as trenches or mounds to prevent the oil from flowing towards Big Bear Creek.
	Implement land based response actions (countermeasure) such as digging temporary containment pits, ponds, or curbs to prevent the flow of oil into the river.
	Deploy absorbent sock and sorbent material along the shoreline to prevent oil from entering waters.

If the oil has reached water:

Completed	Actions
	Contact cleanup contractor(s).
	Deploy floating booms immediately downstream from the release point. Big Bear Creek is narrow and shallow. Floating boom deployment does not require the use of a boat.
	Control oil flow on the ground by placing absorbent socks and other sorbent material or physical barriers (e.g., “kitty litter,” sandbags, earthen berm, trenches) across the oil flow path.
	Deploy additional floating booms across the whole width of the Creek at the next access point downstream from the release point. Access points and staging areas along the shoreline are identified on Figure C-1 of this Contingency Plan.
	Deploy protective booming measures for downstream receptors that may be impacted by the spill.

2.2.4 Disposal of Recovered Product and Contaminated Response Material

The RC ensures that all contaminated materials classified as hazardous waste are disposed of in accordance with all applicable solid and hazardous waste regulations.

Completed	Actions
	Place any recovered product that can be recycled into the gun barrel tank to be separated and recycled.
	Dispose of recovered product not suitable for on-site recycling with the rest of the waste collected during the response efforts.

	Collect all debris in properly labeled waste containers (impervious bags, drums, or buckets).
	Dispose of contaminated material in accordance with all applicable solid and hazardous waste regulations using a licensed waste hauler and disposal facility, after appropriately characterizing the material for collection and disposal.
	Dispose of all contaminated response material within 2 weeks of the discharge.

2.2.5 Termination

The RC ensures that cleanup has been completed and that the contaminated area has been treated or mitigated according to the applicable regulations and state/federal cleanup action levels. The RC collaborates with the local, state and federal authorities regarding the assessment of damages.

Completed	Actions
	Ensure that all repairs to the defective equipment or flowline section have been completed.
	Review circumstances that led to the discharge and take all necessary precautions to prevent a recurrence.
	Evaluate the effectiveness of the response activities and make adjustments as necessary to response procedures and personnel training.
	Carry out personnel and contractor debriefings as necessary to emphasize prevention measures or to communicate changes in operations or response procedures.
	Submit any required follow-up reports to the authorities. In the case where the discharge (as defined in 40 CFR 112.1(b)) was greater than 1,000 gallons or was the second discharge (as defined in 40 CFR 112.1(b)) of 42 gallons or more within any 12-month period, the RC is responsible for submitting the required information within 60 days to the EPA Regional Administrator following the procedures outlined in Appendix B. *40 CFR 112.4(a)* Within 30 days of the discharge, the RC will convene an incident critique including all appropriate persons that responded to the spill. The goal of the incident critique is to discuss lessons learned, the efficacy of the Contingency Plan and its implementation, and coordination of the plan/RC and other state and local plans. Within 60 days of the critique, the Contingency Plan will be updated (as needed) to incorporate the results, findings, and suggestions developed during the critique.

2.3 Discharge Notification

40 CFR109.5(b)(2)

Instructions and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local authorities are provided in Appendix B to this Plan. *Any discharge to water must be reported immediately to the National Response Center.* The Response Coordinator must ensure that details of the discharge are recorded on the Discharge Notification Form provided in Appendix B.

If the discharge qualifies under 40 CFR part 112 (see Appendix B for conditions), the RC is responsible for ensuring that all pertinent information is provided to the EPA Regional Administrator.

PART III
Response Resources and Preparedness Activities

3.1 Equipment, Supplies, Services, and Manpower

40 CFR 109.5(c)(1) and (c)(2)

Spill kits are provided in a storage shed at the production site that is accessible by both Clearwater and Avonlea personnel (see Figure C-2 in Appendix C). Response equipment and material present at the site include:

(4)	Empty 55-gallons drums to hold contaminated material
(1)	50-ft absorbent socks
(2)	10-ft sections of hard skirted deployment boom
(2)	50-ft floating booms
(200 pounds)	"Oil-dry" Loose absorbent material
(4 boxes)	2 ft x 3 ft absorbent pads
(3 boxes)	Nitrile gloves
(3 boxes)	Neoprene gloves
(6 pairs)	Vinyl/PVC pull-on overboots
(3)	Non-sparking shovels
(3)	Brooms
(20)	Sand bags
(1)	Combustible Gas Indicator with H_2S detection capabilities

This material is sufficient to respond to most minor discharges occurring at the facility and to initially contain a major discharge while waiting for additional material or support from outside contractors. The inventory is verified on a monthly basis during the scheduled facility inspection by designated personnel and is replenished as needed.

Additional material and equipment is kept at Clearwater's field office, located 25 miles from the facility. This additional material includes empty storage drums, absorbent socks and booms, containment booms, sand bags, personal protective gear, etc. It also includes all necessary communication equipment to coordinate response activities (cell phones, two-way radios). The Field Office serves as the response operation center during a response.

40 CFR 109.5(d)(2)

Clearwater has three employees trained and available to respond to an oil discharge. Clearwater personnel may be assisted by three additional employees from the facility's main contractor, Avonlea Oil Services. All employees are familiar with the facility layout, location of spill response equipment and staging areas, and response strategies, and with the SPCC and Oil Spill Contingency Plans for this facility. All have received training in the deployment of response material and handling of hazardous waste (HAZWOPER) and have attended the required refresher courses.

40 CFR 109.5(c)(3)

To respond to larger discharges and ensure the removal and disposal of cleanup debris, Clearwater has established agreements with two specialized cleanup contractors: EZClean and Armadillo Oil Removal, with EZClean contacted first and acting as the primary response/cleanup contractor and Armadillo Oil Removal acting as the alternate or in a supporting role. Contact information is provided in Appendix A. These contractors have immediate access to an assortment of equipment and materials, including mechanical recovery equipment for use on water and on land, small boats, floating booms, and large waste containers. Each contractor has sufficient response equipment to contain and recover the maximum possible discharge of 4,125 gallons. EZClean and Armadillo Oil Removal are able to respond *within 4 hours* of receiving a verbal request from the RC. Clearwater discusses response capacity needs on an annual basis with each contractor to ensure that sufficient equipment and material are available to respond to a potential 4,125-gallon discharge. The inventories of EZClean and Armadillo Oil Removal equipment are maintained with the response agreements and updated annually.

3.2 Access to Receiving Waterbody

40 CFR 109.5(d)(5)

Big Bear Creek would be the first waterbody affected in the event of a discharge. From there, the oil would flow into the Mines River. The response strategy consists of: (1) deploying booms and other response equipment at various points downstream from the oil plume to prevent its migration; and (2) deploying booms as a protective measure for an irrigation water intake and other downstream sensitive receptors.

Figure 3-2: Boom deployed across Big Bear Creek.

Vehicular access to Big Bear Creek is essential to ensure that the response equipment can be effectively deployed to contain oil at various points along the waterway and prevent further migration of the oil towards the Mines River.

Figure 3-3: Boom deployed at Route 54 bridge crossing.

Three access points have been established along Big Bear Creek and are marked on the map in Figure C-1 (BB1, BB2, and BB3). These access points provide sufficient cleared land for a staging area from which Clearwater or contractor personnel can deploy response equipment, and recover and store spilled oil. Twice a year, as part of the monthly inspection of the facility, Clearwater facility personnel drive to each access point and make sure that it remains accessible (e.g., vegetation is not overgrown and the dirt trail is not impassable for a field vehicle). The respective property owners have agreed to allow access to Clearwater's personnel and contractors for response and maintenance purposes. Although no further approval is needed prior to the deployment of response equipment, the RC will contact the property owners as necessary to inform them of activities being carried out.

If necessary, three access points are also available along the Mines River. One is located in the center of Madison, at the bridge crossing for Route 101, the second is located at the public park two miles downstream from the center, and the third one is located at the bridge crossing for Route 54, four miles downstream from the center. Coordination with the Madison police/fire departments is necessary to stage equipment at these three access points.

3.3 Communications and Control

40 CFR 109.5(b)(3)
40 CFR 109.5(d)(3)

A central coordination center will be set up at the field office in the event of a discharge. The field office is equipped with a variety of fixed and mobile communication equipment (telephone, fax, cell phones, two-way radios, computers) to ensure continuous communication with Clearwater management, responders, authorities, and other interested parties.

Communications equipment includes:

- **Portable hand-held radios.** Clearwater maintains a two-way base station and four portable radio units. These radio units are kept at the field office as part of the response equipment. Local emergency responders have been provided with the response frequencies that will be used during an incident.
- **Cell phones.** Each field vehicle and the RC are provided with a cell phone. The RC and/or his alternate (Site Supervisor when the Field Operations Manager is not "on call") can be reached by cell phone 7 days a week, 24 hours a day.
- **Additional equipment.** Additional equipment will be obtained from EZClean and/or Armadillo Oil Removal in the event that more communications equipment is necessary.

The RC is responsible for communicating the status of the response operations and for sharing relevant information with involved parties, including local, state, and federal authorities.

In the event that local response agencies, Louisiana authorities, or a federal On Site Coordinator (OSC) assumes Incident Command, the RC will function as the facility representative in the Unified Command structure.

3.4 Training Exercises and Updating Procedures

40 CFR 109.5(d)(1)

Clearwater has established and maintains an ongoing training program to ensure that Clearwater personnel responding to oil discharges are properly trained and that all necessary equipment is available to them. The program includes on-the-job training on the proper deployment of response equipment and periodic practice drills during which Clearwater personnel are asked to deploy equipment and material in response to a simulated discharge. The RC is responsible for implementing and evaluating employee preparedness training.

Following a response to an oil discharge, the RC will evaluate the actions taken and identify procedural areas where improvements are needed. The RC will conduct a briefing with field personnel, contractors, and local emergency responders to discuss lessons learned and will integrate the outcome of the discussion in subsequent SPCC briefings and employee training seminars. As necessary, the RC will amend this Contingency Plan or the SPCC Plan to reflect changes made to the facility equipment and procedures. A Professional Engineer will certify any technical amendment to the SPCC Plan.

40 CFR 109.5(b)(2)

APPENDIX A
EMERGENCY CONTACTS

Facility Operations

Name	Title	Telephone	Address
Bill Laurier	Field Operations Manager Clearwater Oil Co.	(405) 831-6322 (office) (405) 829-4051 (cell)	2451 Mountain Drive Ridgeview, LA 70180
Carol Campbell	Regional Director of Operations Clearwater Oil Co.	(405) 831-6320 (office) (405) 831-2262 (cell)	2451 Mountain Drive Ridgeview, LA 70180
Lester Pearson	Vice-President of Operations Clearwater Oil Co.	(555)-289-4500	13000 Main Street, Suite 400 Houston, TX 77077
Joe Clark	Field Supervisor Avonlea Services, Inc.	(406) 545-2285 (office) (406) 549-9087 (cell)	786 Cherry Creek Road Avonlea, LA 70180
William Mackenzie	Pumper Avonlea Services, Inc.	(406) 549-9087 (cell)	786 Cherry Creek Road Avonlea, LA 70180

Local Emergency Responders

Name	Telephone	Address
Fire/Police Departments	911 (405) 830-2000	2451 Mountain Drive, Madison, LA 70180
Emerson Hospital	(405) 831-9558	13000 Main Street, Madison, LA 70180

Cleanup Contractors

Name	Telephone	Address
EZClean	(800) 521-3211	1200 Industry Park Drive, Gardner, LA 70180
Armadillo Oil Removal	(214) 566-5588	25 B Street, Suite #6, Madison, LA 70180

Neighboring Property Owners

Name	Telephone	Address	Location
Maurice Richard	(405) 830-2186	5540 Route 417, Madison, LA 70180	BB1
Jim Larouche	(405) 832-2645	6075 Greenfield Drive, Madison, LA 70180	BB2
Peter Martin	(405) 832-5527	1644 Oilfield Road, Madison, LA 70180	BB3
Howard Fleming	(405) 235-6893	531 Horseshoe Road, Madison, LA 70180	

APPENDIX B
DISCHARGE NOTIFICATION PROCEDURES

Circumstances, instructions, and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local agencies, and to other affected parties, are provided below. They are also posted at the facility in the storage shed containing the discharge response equipment. Note that any discharge to water must be reported immediately to the National Response Center.

Field Operations Manager, Bill Laurier (24 hours)	(405) 829-4051
Local Emergency (fire, explosion, or other hazards)	911

Agency / Organization	Agency Contact	Circumstances	When to Notify
Federal Agencies			
National Response Center	1-800-424-8802	Discharge reaching navigable waters.	**Immediately (verbal)**
EPA Region VI (Hotline)	1-800-887-6063		**Immediately (verbal)**
EPA Region VI Regional Administrator	First Interstate Bank Tower at Fountain Place 1445 Ross Avenue, 12th floor, Suite 1200 Dallas TX 75202	Discharge 1,000 gallons or more; or second discharge of 42 gallons or more over a 12-month period.	Written notification within 60 days (see Section 2.1 of this Plan)
State Agencies			
Office of State Police, Transportation and Environmental Safety Section, Hazardous Materials Hotline	225-925-6595 or 1-877-925-6595	1) Injury requiring hospitalization or fatality. 2) Fire, explosion, or other impact that could affect public safety. 3) Release exceeding 24-hour reportable quantity. 4) Impact to areas beyond the facility's confines.	**Immediately (verbal)** Written notification to be made within 5 days.
Office of State Police, Transportation and Environmental Safety Section, Hazardous Materials Hotline	225-925-6595 or 1-877-925-6595	Discharges that pose emergency conditions, regardless of the volume discharged.	**Within 1 hour** of discovery (verbal). Written notification within 7 working days.

Agency / Organization	Agency Contact	Circumstances	When to Notify
Louisiana Department of Environmental Quality, Office of Environmental Compliance	225-763-3908 or 225-342-1234 (after business hours, weekends and holidays)	Discharges that do not pose emergency conditions	Within 24 hours of discovery (verbal). Written notification within 7 working days.
Local Agencies			
St. Anthony's Parish Emergency Planning Committee	337-828-1960	Any discharge of 100 lbs or more that occurs beyond the boundaries of the facility, including to the air.	**Immediately (verbal)** Written notification within 7 days.
Others			
Response/cleanup contractors	EZClean (800) 521-3211 Armadillo Oil Removal Co. (214) 566-5588	Any discharge that exceeds the capacity of facility personnel to respond and clean up.	As needed
Howard Fleming Farm (agricultural irrigation intake)	(405) 235-6893	Any discharge that threatens to affect neighboring properties and irrigation intakes.	As needed
Maurice Richard	405-830-2186	When deploying response equipment from Access Point BB1 on Big Bear Creek.	As needed
Jim Larouche	405-832-2645	When deploying response equipment from Access Point BB2 on Big Bear Creek.	As needed
Peter Martin	405-832-5527	When deploying response equipment from Access Point BB3 on Big Bear Creek.	As needed

The person reporting the discharge must provide the following information:

- Name, location, organization, and telephone number
- Name and address of the owner/operator
- Date and time of the incident
- Location of the incident
- Source and cause of discharge
- Types of material(s) discharged
- Total quantity of materials discharged
- Quantity discharged in harmful quantity (to navigable waters or adjoining shorelines)
- Danger or threat posed by the release or discharge
- Description of all affected media (e.g., water, soil)

- Number and types of injuries (if any) and damaged caused
- Weather conditions
- Actions used to stop, remove, and mitigate effects of the discharge
- Whether an evacuation is needed
- Name of individuals and/or organizations contacted
- Any other information that may help emergency personnel respond to the incident

Whenever the facility discharges more than 1,000 gallons of oil in a single event, or discharges more than 42 gallons of oil in each of two discharge incidents within a 12-month period, the Manager of Field Operations must provide the following information to the U.S. Environmental Protection Agency's Regional Administrator within 60 days:

- Name of the facility
- Name of the owner or operator
- Location of the facility
- Maximum storage or handling capacity and normal daily throughput
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements
- Description of facility, including maps, flow diagrams, and topographical maps
- Cause of the discharge(s) to navigable waters, including a failure analysis of the system and subsystems in which the failure occurred.
- Additional preventive measures taken or contemplated to minimize possibility of recurrence
- Other pertinent information requested by the Regional Administrator.

Discharge Notification Form

*** Notification must not be delayed if information or individuals are not available. Additional pages may be attached to supplement information contained in the form.

Facility: Clearwater Oil Company Big Bear Lease No. 2 Production Facility
5800 Route 417
Madison, Louisiana 73506

Description of Discharge		
Date/time	Release date: Release time: Duration:	Discovery date: Discovery time:
Reporting Individual	Name:	Tel. #:
Location of discharge	Latitude: Longitude:	Description:
Equipment source	☐ piping ☐ flowline ☐ well ☐ unknown ☐ stock, flare	Description: Equipment ID:
Product	☐ crude oil ☐ saltwater ☐ other*	* Describe other:
Appearance and description		
Environmental conditions	Wind direction: Wind speed:	Rainfall: Current:
Impacts		
Quantity	Released:	Recovered:
Receiving medium	☐ water** ☐ land ☐ other (describe):	☐ Release confined to company property. ☐ Release outside company property. ** If water, indicate extent and body of water:
Describe circumstances of the release		
Assessment of impacts and remedial actions		
Disposal method for recovered material		
Action taken to prevent incident from reoccurring		

Safety issues	☐ Injuries ☐ Fatalities ☐ Evacuation	
Notifications		
Agency	**Name**	**Date/time reported & Comments**
Company Spill Response Coordinator		
National Response Center 1-800-424-8802		
State police		
Parish Emergency Response Commission		
OSRO/cleanup contractor		

Appendix C
SITE PLAN AND FACILITY DIAGRAM

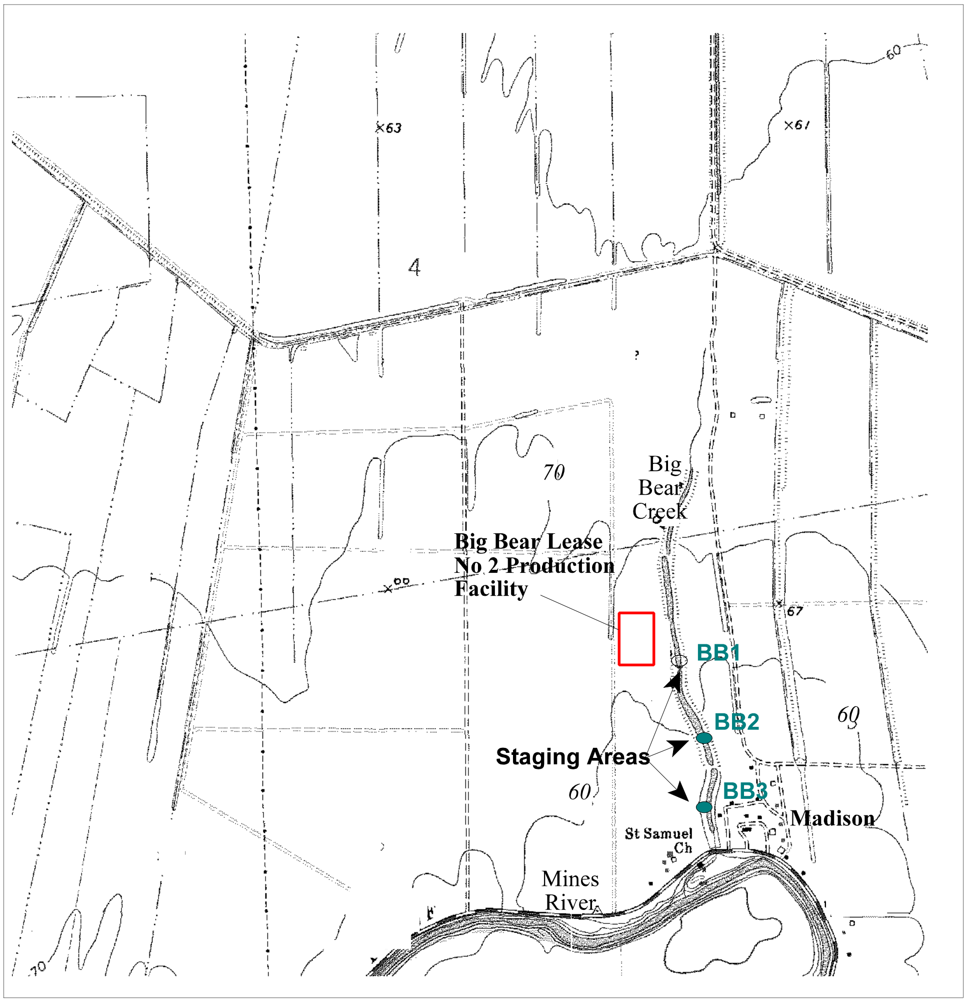

Figure C-1: Site Plan (pre-designated staging areas are indicated).

Staging area	Location	Contact Information
BB1	5540 Route 417, Madison, LA (access from path to the right of the storage shed).	Maurice Richard; 405-830-2186
BB2	6075 Greenfield Drive, Madison, LA.	Jim Larouche; 405-832-2645
BB3	1644 Oilfield Road, Madison, LA	Peter Martin; 405-832-5527

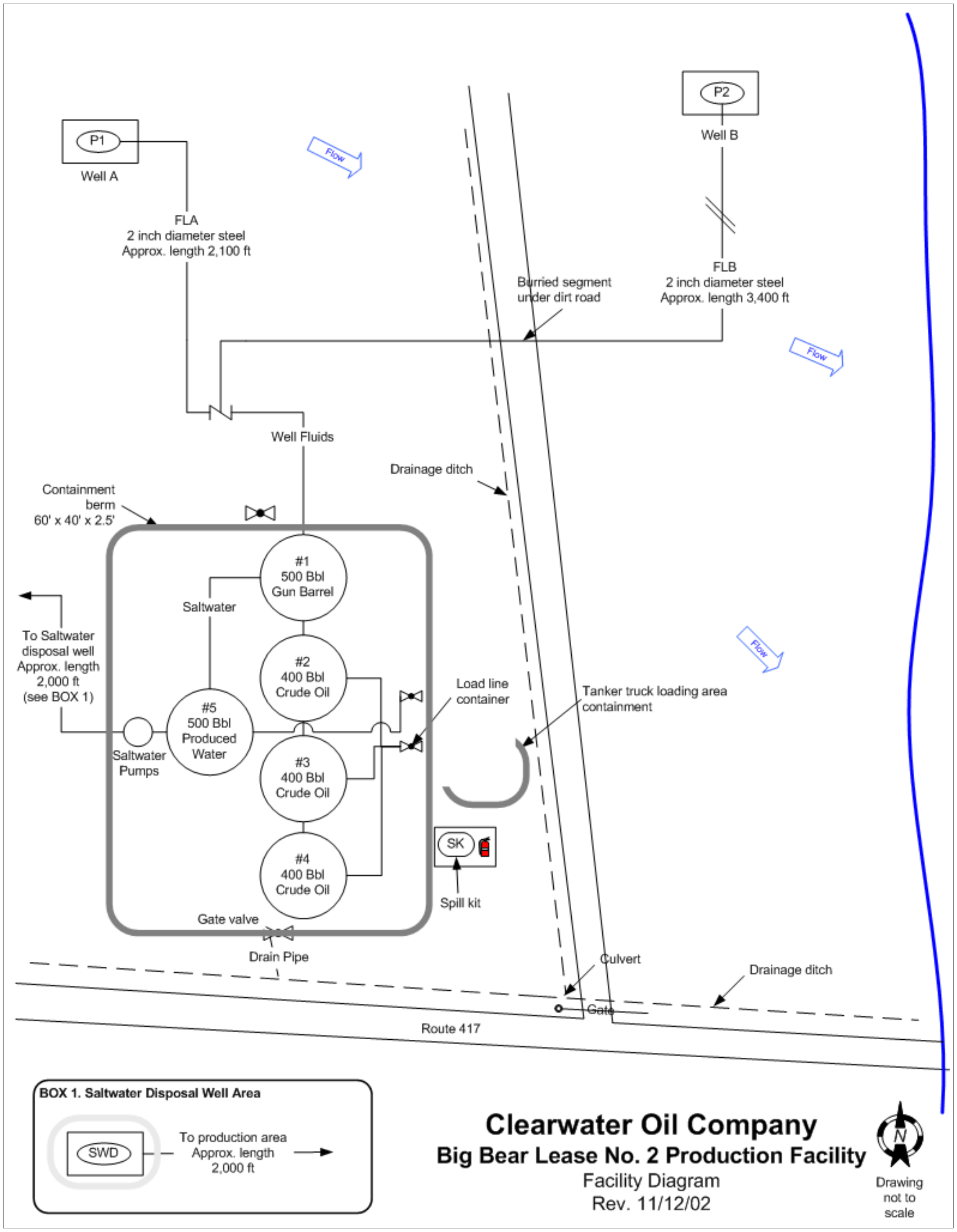

Figure C-2: Facility Diagram.

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APPENDIX G: SPCC INSPECTION CHECKLISTS

Onshore Facilities (excluding production)

Onshore Oil Production, Drilling, and Workover Facilities

Offshore Oil Production, Drilling, and Workover Facilities

Overview of the Checklist

This checklist is designed to assist EPA inspectors in conducting a thorough and consistent inspection of a facility's compliance with the Spill Prevention, Control, and Countermeasure (SPCC) rule at 40 CFR part 112. It is a tool to help federal inspectors (or their contractors) record observations during the site visit and review of the SPCC Plan. While the checklist is comprehensive, the inspector should always refer to the SPCC rule in its entirety, the *SPCC Regional Inspector Guidance Document,* and other relevant guidance for evaluating compliance. This checklist must be completed in order for an inspection to count toward an agency measure (i.e., OEM/OECA inspection measures or GPRA).

The checklist is organized according to the SPCC rule. Each item in the checklist identifies the relevant section and paragraph in 40 CFR part 112 where that requirement is stated. Sections 112.1 through 112.5 specify the applicability of the rule and requirements for the preparation, implementation, and amendment of SPCC Plans. For these sections, the checklist includes data fields to be completed, as well as several questions with "yes" or "no" answers.

Sections 112.7 through 112.12 specify requirements for spill prevention, control, and countermeasures. For these sections, the inspector needs to evaluate whether the requirement is addressed adequately or inadequately in the SPCC Plan and whether it is implemented adequately in the field (either by field observation or record review). For the SPCC Plan and implementation in the field, if a requirement is addressed adequately, mark the "Yes" box in the appropriate column. If a requirement is not addressed adequately, mark the "No" box. If a requirement does not apply to the particular facility, mark the "NA" box. If a provision of the rule applies only to the SPCC Plan, the "Field" column is shaded.

Space is provided in each section to record comments. Additional space is available on the comments page at the end of the checklist. Comments should remain factual and support the evaluation of compliance.

Appendix A is for recording information about containers and other locations at the facility that require secondary containment.

Appendix B is a checklist for documentation of the tests and inspections the facility operator is required to keep with the SPCC Plan.

Appendix C is a checklist for oil removal contingency plans. A contingency plan is required if a facility determines that secondary containment is impracticable as provided in 40 CFR 112.7(d).

U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIST
FOR USE AT ONSHORE FACILITIES (EXCLUDING PRODUCTION)

FACILITY INFORMATION				
FACILITY NAME:				
ADDRESS:			LAT:	LONG:
CITY:	STATE:	ZIP:	COUNTY:	
TELEPHONE:	FACILITY REPRESENTATIVE NAME:			
OWNER NAME:				
OWNER ADDRESS:				
CITY:	STATE:	ZIP:		
TELEPHONE:	OWNER CONTACT PERSON:			
FACILITY OPERATOR NAME (IF DIFFERENT FROM OWNER – IF NOT, PRINT “SAME”):				
OPERATOR ADDRESS:				
CITY:	STATE:	ZIP:		
TELEPHONE:	OPERATOR CONTACT PERSON:			
FACILITY TYPE:			NAICS CODE:	
HOURS PER DAY FACILITY ATTENDED:		TOTAL FACILITY CAPACITY:		
TYPE(S) OF OIL STORED:				
IS FACILITY LOCATED IN INDIAN COUNTRY? ☐ YES ☐ NO IF YES, RESERVATION NAME:				

INSPECTION INFORMATION		
INSPECTION DATE:	TIME:	INSPECTION NUMBER:
LEAD INSPECTOR:		
OTHER INSPECTOR(S):		

INSPECTOR ACKNOWLEDGMENT	
I performed an SPCC inspection at the facility specified above.	
INSPECTOR SIGNATURE:	DATE:

FACILITY RESPONSE PLAN (FRP) APPLICABILITY

A non-transportation related onshore facility is required to prepare and implement an FRP as outlined in 40 CFR 112.20 if:

☐ The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons, **OR**

The facility has a total oil storage capacity of at least 1 million gallons, and at least one of the following is true:

☐ The facility does not have secondary containment sufficiently large to contain the capacity of the largest aboveground tank plus sufficient freeboard for precipitation.
☐ The facility is located at a distance such that a discharge could cause injury to fish and wildlife and sensitive environments.
☐ The facility is located such that a discharge would shut down a public drinking water intake.
☐ The facility has had a reportable discharge greater than or equal to 10,000 gallons in the past 5 years.

Facility has FRP: ☐ Yes ☐ No ☐ Not Required	FRP Number:

Facility has a completed and signed copy of Appendix C, Attachment C-II, "Certification of the Applicability of the Substantial Harm Criteria." ☐ Yes ☐ No

Comments:

SPCC GENERAL APPLICABILITY—40 CFR 112.1

IS THE FACILITY REGULATED UNDER 40 CFR part 112?
The completely buried oil storage capacity is over 42,000 gallons, **OR** the aggregate aboveground oil storage capacity is over 1,320 gallons ☐ Yes ☐ No **AND**

The facility is a non-transportation-related facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location could reasonably be expected to discharge oil into or upon the navigable waters of the United States (as defined in 40 CFR 110.1). ☐ Yes ☐ No

AFFECTED WATERWAY(S):	DISTANCE:

PATH:

Note: The following storage capacity is not considered in determining applicability of SPCC requirements:

- *Completely buried tanks subject to all the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281.*
- *Equipment subject to the authority of the U.S. Department of Transportation, U.S. Department of the Interior, or Minerals Management Service, as defined in Memoranda of Understanding dated November 24, 1971, and November 8, 1993.*
- *Any facility or part thereof used exclusively for wastewater treatment (production, recovery or recycling of oil is not considered wastewater treatment)*.
- *Containers smaller than 55 gallons.*
- *Permanently closed containers.*

Does the facility have an SPCC Plan? ☐ Yes ☐ No

Comments:

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3

Date facility began operations:

Date of initial SPCC Plan preparation:	Current plan version (date/number):

112.3(a)	For facilities in operation prior to August 16, 2002: • Plan amended by February 17, 2006	☐ Yes ☐ No ☐ NA
	• Amended Plan implemented by August 18, 2006	☐ Yes ☐ No ☐ NA
	For facilities beginning operation between August 17, 2002, and August 18, 2006, Plan prepared and fully implemented by August 18, 2006	☐ Yes ☐ No ☐ NA

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3				
112.3(b) & (c)	For facilities beginning operation after August 18, 2006, Plan prepared and fully implemented before beginning operations			☐ Yes ☐ No ☐ NA
112.3(d)	Professional Engineer certification includes statement that the PE attests: • PE is familiar with the requirements of 40 CFR part 112 • PE or agent has visited and examined the facility • Plan is prepared in accordance with good engineering practice including consideration of applicable industry standards and the requirements of 40 CFR part 112 • Procedures for required inspections and testing have been established • Plan is adequate for the facility			 ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No
PE Name:	License No.:	State:	Date of certification:	
112.3(e)	Plan available onsite if facility is attended at least 4 hours/day (If located at nearest field office, please note contact information below)			☐ Yes ☐ No ☐ NA
Comments:				

AMENDMENT OF SPCC PLAN BY REGIONAL ADMINISTRATOR (RA)—40 CFR 112.4		
112.4(a)	Has the facility discharged a reportable quantity of oil in amounts considered harmful: more than 1,000 gallons of oil in a single discharge or more than 42 gallons in each of two discharges in any 12-month period (see 40 CFR part 110)?	☐ Yes ☐ No
	• If yes, was information submitted to the RA as required in §112.4(a)?	☐ Yes ☐ No ☐ NA
	• Date(s) of reportable discharges(s): • Were they reported to the NRC?	 ☐ Yes ☐ No ☐ NA
112.4(d), (e)	Have changes required by the RA been implemented in the Plan and/or facility?	☐ Yes ☐ No ☐ NA
Comments:		

AMENDMENT OF SPCC PLAN BY THE OWNER OR OPERATOR—40 CFR 112.5				
112.5(a)	Has there been a change at the facility that materially affects the potential for a discharge?			☐ Yes ☐ No ☐ NA
	• If so, was the Plan amended within six months of the change?			☐ Yes ☐ No ☐ NA
112.5(b)	Review and evaluation of the Plan documented at least once every 5 years?			☐ Yes ☐ No ☐ NA
	• Following Plan review, and if amendment was required, was Plan amended within six months to include more effective prevention and control technology, if available?			☐ Yes ☐ No ☐ NA
112.5(c)	Professional Engineer certification of any technical Plan amendments in accordance with §112.3(d)			☐ Yes ☐ No ☐ NA
Name:	License No.:	State:	Date of certification:	
Reason for amendment:				
Amendments implemented within six months of any Plan amendment				☐ Yes ☐ No ☐ NA
Comments:				

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		**PLAN**	**FIELD**
Management approval at a level of authority to commit the necessary resources to fully implement the Plan ☐ Yes ☐ No			
Name:	Title:	Date:	
Plan follows sequence of the rule or provides a cross-reference of requirements in the Plan and the rule		☐ Yes ☐ No	
If Plan calls for facilities, procedures, methods, or equipment not yet fully operational, details of their installation and start-up are discussed *(Note: Relevant for inspection evaluation and testing baselines.)*		☐ Yes ☐ No ☐ NA	
112.7(a)(2)	If there are deviations from the requirements of the rule, the Plan states reasons for nonconformance	☐ Yes ☐ No ☐ NA	
	Alternative measures described in detail and provide equivalent environmental protection *(Note: Inspector should document if the environmental equivalence is implemented in the field)*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Describe each deviation and reasons for nonconformance:			
112.7(a)(3)	Plan includes diagram with location and contents of all regulated containers (including completely buried tanks otherwise exempt from the SPCC requirements), transfer stations, and connecting pipes	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(a)(3)	Plan addresses each of the following:		
(i)	For each container, type of oil and storage capacity (see Appendix A)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(ii)	Discharge prevention measures, including procedures for routine handling of products	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iii)	Discharge or drainage controls, such as secondary containment around containers, and other structures, equipment, and procedures for the control of a discharge	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iv)	Countermeasures for discharge discovery, response, and cleanup (both facility's and contractor's resources)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(v)	Methods of disposal of recovered materials in accordance with applicable legal requirements	☐ Yes ☐ No ☐ NA	
(vi)	Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors contracted to respond to a discharge, and all Federal, State, and local agencies who must be contacted in the case of a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(a)(4)	Plan includes information and procedures that enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge; the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and the names of individuals and/or organizations who have also been contacted (Not required if a facility has an FRP)	☐ Yes ☐ No ☐ NA	
112.7(a)(5)	Plan organized so that portions describing procedures to be used when a discharge occurs will be readily usable in an emergency (Not required if a facility has an FRP)	☐ Yes ☐ No ☐ NA	
112.7(b)	Plan includes a prediction of the direction, rate of flow, and total quantity of oil that could be discharged for each type of major equipment failure where experience indicates a reasonable potential for equipment failure	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(c)	Appropriate containment and/or diversionary structures provided to prevent a discharge as described in §112.1(b) before cleanup occurs. The entire containment system, including walls and floors, are capable of containing oil and are constructed to prevent escape of a discharge from the containment system before cleanup occurs. (1) **For onshore facilities**, one of the following or its equivalent: (i) dikes, berms, or retaining walls sufficiently impervious to contain oil, (ii) curbing, (iii) culverting, gutters or other drainage systems, (iv) weirs, booms or other barriers, (v) spill diversion ponds, (vi) retention ponds, or (vii) sorbent materials (See Appendix A)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(d)	Determination(s) of impracticability of secondary containment	☐ Yes ☐ No	
	If **YES,** is the impracticability of secondary containment clearly demonstrated?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Comments concerning impracticability determination(s) for secondary containment:		
	If impracticability determination is made, for bulk storage containers, periodic integrity testing of containers and leak testing of the valves and piping associated with the container is conducted	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	If impracticability determination is made, unless facility has FRP: (1) Contingency Plan following 40 CFR part 109 (see Appendix C checklist) is provided **AND**	☐ Yes ☐ No ☐ NA	
	(2) Written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(e)	Inspections and tests conducted in accordance with written procedures	☐ Yes ☐ No ☐ NA	
	Record of inspections or tests signed by supervisor or inspector and kept with Plan for at least 3 years (see Appendix B checklist)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

	GENERAL SPCC REQUIREMENTS—40 CFR 112.7	**PLAN**	**FIELD**
112.7(f) Personnel, training, and oil discharge prevention procedures			
(1)	Training of oil-handling personnel in operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and contents of SPCC Plan	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Person designated as accountable for discharge prevention at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Discharge prevention briefings conducted at least once a year for oil handling personnel	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(g) Security (excluding production facilities)			
(1)	Facility fully fenced and gates are locked and/or guarded when facility is unattended	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Pump starter controls locked in "off" position and accessible only to authorized personnel when in non-operating/non-standby status	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4)	Loading/unloading connections of oil pipelines or facility piping securely capped or blank-flanged when not in service or when in standby service for an extended period of time, including piping that is emptied of liquid content either by draining or by inert gas pressure	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5)	Adequate facility lighting commensurate with the type and location of the facility that assists in the discovery of discharges occurring during hours of darkness and to prevent discharges occurring through acts of vandalism	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(h) Tank car and tank truck loading/unloading rack*			
(1)	Does loading/unloading area (the location adjacent to the **loading or unloading rack**) drainage flow to catchment basin or treatment facility? ☐ Yes ☐ No • If NO, quick drainage system used	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Containment system holds capacity of the largest single compartment of a tank car/truck loaded/unloaded at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Physical barriers, warning signs, wheel chocks, or vehicle brake interlock system in loading/unloading areas (the location adjacent to the **loading or unloading rack**) to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Lower-most drains and all outlets on tank cars/trucks inspected prior to filling/departure, and, if necessary ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

Comments:

* Note that a tank car/truck loading/unloading rack must be present for §112.7(h) to apply

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(i)	Brittle fracture evaluation of field-constructed aboveground containers		
112.7(i)	Brittle fracture evaluation is conducted after tank repair/alteration/change in service that might affect the risk of a discharge or after a discharge/failure due to brittle fracture or other catastrophe, and appropriate action taken as necessary (for field-constructed aboveground containers)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(j)	State rules, regulations and guidelines and conformance with applicable sections of 40 CFR part 112		
112.7(j)	Discussion of conformance with applicable more stringent State rules, regulations, and guidelines and other effective discharge prevention and containment procedures listed in 40 CFR part 112	☐ Yes ☐ No ☐ NA	

Comments:

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		PLAN	FIELD
112.8(b)/112.12(b) Facility Drainage			
(1)	Drainage from diked storage areas is restrained by valves, **OR** manually activated pumps or ejectors are used and the condition of the accumulation is inspected prior to discharge to ensure no oil will be discharged.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Valves from diked storage areas are manual, open-and-closed design (not flapper-type drain valves)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	If drainage is released directly to a watercourse and not into an onsite wastewater treatment plant, storm water inspected per §112.8(c)(3)(ii), (iii), and (iv) or §112.12(c)(3)(ii), (iii), and (iv)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Drainage from undiked areas with a potential for discharge designed to flow into ponds, lagoons, or catchment basins to retain oil or return it to facility. Catchment basin located away from flood areas.*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4)	If facility drainage not engineered as in (b)(3), facility equipped with a diversion system to retain oil in the facility in the event of a discharge*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5)	Are facility drainage waters continuously treated in more than one treatment unit and pump transfer is needed? ☐ Yes ☐ No If **YES:**		
	• Two “lift” pumps available and at least one permanently installed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	• Facility drainage systems engineered to prevent a discharge as described in §112.1(b) in the case of equipment failure or human error	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

Comments:

* These provisions apply only when a facility drainage system is used for containment.

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		PLAN	FIELD
112.8(c)/112.12(c) Bulk Storage Containers (See Appendix A of this checklist)			
(1)	Containers compatible with material stored and conditions of storage such as pressure and temperature	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Secondary containment to hold capacity of largest container and sufficient freeboard for precipitation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Diked areas sufficiently impervious to contain discharged oil	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Alternatively, any discharge to a drainage trench system will be safely confined in a facility catchment basin or holding pond	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Is there drainage of uncontaminated rainwater from diked areas into a storm drain or open watercourse? ☐ Yes ☐ No If **YES:**		
	(i) Bypass valve normally sealed closed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(ii) Retained rainwater is inspected to ensure that its presence will not cause a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(iii) Bypass valve opened and resealed under responsible supervision	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(iv) Adequate records of drainage are kept; for example, records required under permits issued in accordance with 40 CFR 122.41(j)(2) and (m)(3)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4)	For completely buried metallic tanks installed on or after January 10, 1974 (if not exempt from SPCC regulation because subject to all of the technical requirements of 40 CFR part 280 or 281):		
	• Corrosion protection with coatings or cathodic protection compatible with local soil conditions	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	• Regular leak testing conducted	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5)	Partially buried or bunkered metallic tanks protected from corrosion with coatings or cathodic protection compatible with local soil conditions	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		**PLAN**	**FIELD**
112.8(c)/112.12(c) Bulk Storage Containers *(continued)*			
(6)	Aboveground containers integrity tested by visual inspection and another technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing on a regular schedule and whenever material repairs are made	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Container supports and foundations regularly inspected	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Outside of containers frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Records of inspections and tests maintained	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(7)	Leakage through defective internal heating coils controlled: • Steam returns and exhaust lines from internal heating coils that discharge into an open water source are monitored for contamination, **OR** • Steam returns and exhaust lines pass through a settling tank, skimmer, or other separation or retention system	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(8)	Each container equipped with at least one of the following for liquid level sensing: (i) high liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station, or audible air vent in smaller facilities, (ii) high liquid level pump cutoff devices set to stop flow at a predetermined container content level, (iii) direct audible or code signal communication between container gauger and pumping station, (iv) fast response system (such as digital computers, telepulse, or direct vision gauges) and a person is present to monitor gauges and the overall filling of bulk storage containers, (v) liquid level sensing devices regularly tested to ensure proper operation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(9)	Effluent treatment facilities observed frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(10)	Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(11)	Mobile or portable containers positioned to prevent a discharge to prevent a discharge as described in §112.1(b).	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Mobile or portable containers have secondary containment with sufficient capacity to contain the largest single compartment or container and sufficient freeboard for precipitation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		**PLAN**	**FIELD**
112.8(d)/112.12(d) Facility transfer operations, pumping, and facility process			
(1)	Buried piping installed or replaced on or after August 16, 2002 has protective wrapping or coating	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Buried piping installed or replaced on or after August 16, 2002 is cathodically protected or otherwise satisfies corrosion protection standards for piping in 40 CFR part 280 or 281	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Exposed buried piping is inspected for deterioration and corrosion damage is examined and corrected	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Piping terminal connection at the transfer point is marked as to origin and capped or blank-flanged when not in service or in standby service for an extended time	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Pipe supports are properly designed to minimize abrasion and corrosion and allow for expansion and contraction	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4)	Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Integrity and leak testing conducted on buried piping at time of installation, modification, construction, relocation, or replacement	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5)	Vehicles warned so that no vehicle endangers aboveground piping and other oil transfer operations	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

Comments:

ADDITIONAL COMMENTS	
Rule Provision	**Comment**

PHOTO DOCUMENTATION LOG	
Photo Number	**Description (include date and location)**

SPCC FIELD INSPECTION AND PLAN REVIEW TABLE

Appendix A: Documentation of Field Observations for Containers and Associated Requirements

Inspectors should use this table to document observations of containers as needed.

<u>Containers and Piping</u>

Check containers for leaks, specifically looking for: drip marks, discoloration of tanks, puddles containing spilled or leaked material, corrosion, cracks, and localized dead vegetation, and standards/specifications of construction.

Check foundation for: cracks, discoloration, puddles containing spilled or leaked material, settling, gaps between container and foundation, and damage caused by vegetation roots.

Check piping for: droplets of stored material, discoloration, corrosion, bowing of pipe between supports, evidence of stored material seepage from valves or seals, and localized dead vegetation. (Document in comments section of §112.8(d) / §112.12(d).)

<u>Secondary Containment</u> (Active and Passive)

Check secondary containment for: containment system (including walls and floor) ability to contain oil such that oil will not escape the containment system before cleanup occurs, proper sizing, cracks, discoloration, presence of spilled or leaked material (standing liquid), erosion, corrosion, and valve conditions.

Check dike or berm systems for: level of precipitation in dike/available capacity, operational status of drainage valves (closed), dike or berm impermeability, debris, erosion, impermeability of the earthen floor/walls of diked area, and location/status of pipes, inlets, drainage around and beneath containers, presence of oil discharges within diked areas.

Check retention and drainage ponds for: erosion, available capacity, presence of spilled or leaked material, debris, and stressed vegetation.

Check active measures (countermeasures) for: amount indicated in plan is available and appropriate; deployment procedures are realistic; material is located so that they are readily available; efficacy of discharge detection; availability of personnel and training, appropriateness of measures to prevent a discharge as described in §112.1(b).

Container ID/ General Condition	Storage Capacity and Type of Oil	Type of Containment/ Drainage Control	Overfill Protection and Testing & Inspections

SPCC INSPECTION AND TESTING CHECKLIST

Appendix B: Required Documentation of Tests and Inspections

Records of inspections and tests required by 40 CFR part 112 signed by the appropriate supervisor or inspector must be kept with the SPCC Plan for a period of three years. Records of inspections and tests conducted under usual and customary business practices will suffice. Documentation of the following inspections and tests should be kept with the SPCC Plan.

Inspection or Test		Documentation		Not Applicable
		Present	Not Present	
112.7–General SPCC Requirements				
(d)	Integrity testing is conducted for bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(d)	Integrity and leak testing of valves and piping associated with bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(i)	Evaluate field-constructed aboveground containers for potential for brittle fracture or other catastrophic failure when the container undergoes a repair, alteration, reconstruction or change in service			
112.8/112.12–Onshore facilities (excluding production)				
(b)(2)	Storm water released from facility drainage directly to a watercourse is inspected and records of drainage are kept			
(c)(3)(iv)	Rainwater released directly from diked containment areas to a storm drain or open watercourse is inspected and records of drainage are kept			
(c)(4)	Regular leak testing of completely buried metallic storage tanks			
(c)(6)	Aboveground containers, supports and foundations tested for integrity on a regular schedule			
(c)(6)	Outside of containers frequently inspected for deterioration, discharges or accumulations of oil inside diked areas			
(c)(8)(v)	Liquid level sensing devices regularly tested to ensure proper operation			
(c)(9)	Effluent treatment facilities are observed frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b)			
(d)(1)	When buried piping is exposed, it is carefully inspected for deterioration and corrosion damage is corrected			
(d)(4)	Aboveground valves, piping and appurtenances are regularly inspected and the general condition of flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are assessed			
(d)(4)	Integrity and leak testing of buried piping is conducted at time of installation, modification, construction, relocation or replacement			
Comments:				

SPCC CONTINGENCY PLAN REVIEW CHECKLIST

Appendix C: 40 CFR Part 109–Criteria for State, Local and Regional Oil Removal Contingency Plans

If a facility makes an impracticability determination for secondary containment in accordance with §112.7(d), it is required to provide an oil spill contingency plan following 40 CFR part 109.

109.5–Development and implementation criteria for State, local and regional oil removal contingency plans*	**Yes**	**No**
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.		
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:		
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.		
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.		
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).		
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.		
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:		
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.		
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.		
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.		
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:		
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.		
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.		
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.		
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.		
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.		
(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.		

* The contingency plan should be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIST
ONSHORE OIL PRODUCTION, DRILLING, AND WORKOVER FACILITIES

Overview of the Checklist

This checklist is designed to assist EPA inspectors in conducting a thorough and consistent inspection of a facility's compliance with the Spill Prevention, Control, and Countermeasure (SPCC) rule at 40 CFR part 112. It is a tool to help federal inspectors (or their contractors) record observations during the site visit and review of the SPCC Plan. While the checklist is comprehensive, the inspector should always refer to the SPCC rule in its entirety, the *SPCC Regional Inspector Guidance Document,* and other relevant guidance for evaluating compliance. This checklist must be completed in order for an inspection to count toward an agency measure (i.e., OEM/OECA inspection measures or GPRA).

The checklist is organized according to the SPCC rule. Each item in the checklist identifies the relevant section and paragraph in 40 CFR part 112 where that requirement is stated. Sections 112.1 through 112.5 specify the applicability of the rule and requirements for the preparation, implementation, and amendment of SPCC Plans. For these sections, the checklist includes data fields to be completed, as well as several questions with "yes" or "no" answers.

Sections 112.7 through 112.11 specify requirements for spill prevention, control, and countermeasures. For these sections, the inspector needs to evaluate whether the requirement is addressed adequately or inadequately in the SPCC Plan and whether it is implemented adequately in the field (either by field observation or record review). For the SPCC Plan and implementation in the field, if a requirement is addressed adequately, mark the "Yes" box in the appropriate column. If a requirement is not addressed adequately, mark the "No" box. If a requirement does not apply to the particular facility, mark the "NA" box. If a provision of the rule applies only to the SPCC Plan, the "Field" column is shaded.

Space is provided in each section to record comments. Additional space is available on the comments page at the end of the checklist. Comments should remain factual and support the evaluation of compliance.

Appendix A is for recording information about containers and other locations at the facility that require secondary containment.

Appendix B is a checklist for documentation of the tests and inspections the facility operator is required to keep with the SPCC Plan.

Appendix C is a checklist for oil removal contingency plans. A contingency plan is required if a facility determines that secondary containment is impracticable as provided in 40 CFR 112.7(d).

U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIST
ONSHORE OIL PRODUCTION, DRILLING, AND WORKOVER FACILITIES

FACILITY INFORMATION					
FACILITY NAME:					
ADDRESS:				LAT:	LONG:
CITY:	STATE:	ZIP:		COUNTY:	
TELEPHONE:	FACILITY REPRESENTATIVE NAME:				
OWNER NAME:					
OWNER ADDRESS:					
CITY:	STATE:	ZIP:			
TELEPHONE:	OWNER CONTACT PERSON:				
FACILITY OPERATOR NAME (IF DIFFERENT FROM OWNER – IF NOT, PRINT “SAME”):					
OPERATOR ADDRESS:					
CITY:	STATE:	ZIP:			
TELEPHONE:	OPERATOR CONTACT PERSON:				
FACILITY TYPE:				NAICS CODE:	
HOURS PER DAY FACILITY ATTENDED:		TOTAL FACILITY CAPACITY:			
TYPE(S) OF OIL STORED:					
IS FACILITY LOCATED IN INDIAN COUNTRY? ☐ YES ☐ NO IF YES, RESERVATION NAME:					

INSPECTION INFORMATION		
INSPECTION DATE:	TIME:	INSPECTION NUMBER:
LEAD INSPECTOR:		
OTHER INSPECTOR(S):		

INSPECTOR ACKNOWLEDGMENT	
I performed an SPCC inspection at the facility specified above.	
INSPECTOR SIGNATURE:	DATE:

FACILITY RESPONSE PLAN (FRP) APPLICABILITY

A non-transportation related onshore facility is required to prepare and implement an FRP as outlined in 40 CFR 112.20 if:

☐ The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons, **OR**

The facility has a total oil storage capacity of at least 1 million gallons, and at least one of the following is true:

☐ The facility does not have secondary containment sufficiently large to contain the capacity of the largest aboveground tank plus sufficient freeboard for precipitation.
☐ The facility is located at a distance such that a discharge could cause injury to fish and wildlife and sensitive environments.
☐ The facility is located such that a discharge would shut down a public drinking water intake.
☐ The facility has had a reportable discharge greater than or equal to 10,000 gallons in the past 5 years.

Facility has FRP: ☐ Yes ☐ No ☐ Not Required	FRP Number:

Facility has a completed and signed copy of Appendix C, Attachment C-II, "Certification of the Applicability of the Substantial Harm Criteria" ☐ Yes ☐ No

Comments:

SPCC GENERAL APPLICABILITY—40 CFR 112.1

IS THE FACILITY REGULATED UNDER 40 CFR part 112?
The completely buried oil storage capacity is over 42,000 gallons, **OR** the aggregate aboveground oil storage capacity is over 1,320 gallons ☐ Yes ☐ No **AND**

The facility is a non-transportation-related facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location could reasonably be expected to discharge oil into or upon the navigable waters of the United States (as defined in 40 CFR 110.1). ☐ Yes ☐ No

AFFECTED WATERWAY(S):	DISTANCE:

PATH:

Note: The following storage capacity is not considered in determining applicability of SPCC requirements:

- *Completely buried tanks subject to all the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281.*
- *Equipment subject to the authority of the U.S. Department of Transportation, U.S. Department of the Interior, or Minerals Management Service, as defined in Memoranda of Understanding dated November 24, 1971, and November 8, 1993.*
- *Any facility or part thereof used exclusively for wastewater treatment (production, recovery or recycling of oil is not considered wastewater treatment).*
- *Containers smaller than 55 gallons.*
- *Permanently closed containers.*

Does the facility have an SPCC Plan? ☐ Yes ☐ No

Comments:

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3

Date facility began operations:

Date of initial SPCC Plan preparation:	Current plan version (date/number):

112.3(a)	For facilities in operation prior to August 16, 2002: • Plan amended by February 17, 2006	☐ Yes ☐ No ☐ NA
	• Amended Plan implemented by August 18, 2006	☐ Yes ☐ No ☐ NA
	For facilities beginning operation between August 17, 2002, and August 18, 2006, Plan prepared and fully implemented by August 18, 2006	☐ Yes ☐ No ☐ NA

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3				
112.3(b) & (c)	For facilities beginning operation after August 18, 2006, Plan prepared and fully implemented before beginning operations	☐ Yes	☐ No	☐ NA
112.3(d)	Professional Engineer certification includes statement that the PE attests:			
	• PE is familiar with the requirements of 40 CFR part 112	☐ Yes	☐ No	
	• PE or agent has visited and examined the facility	☐ Yes	☐ No	
	• Plan is prepared in accordance with good engineering practice including consideration of applicable industry standards and the requirements of 40 CFR part 112	☐ Yes	☐ No	
	• Procedures for required inspections and testing have been established	☐ Yes	☐ No	
	• Plan is adequate for the facility	☐ Yes	☐ No	
PE Name:	License No.:	State:	Date of certification:	
112.3(e)	Plan available onsite if facility is attended at least 4 hours/day (If located at nearest field office, please note contact information below)	☐ Yes	☐ No	☐ NA
Comments:				

AMENDMENT OF SPCC PLAN BY REGIONAL ADMINISTRATOR (RA)—40 CFR 112.4				
112.4(a)	Has the facility discharged a reportable quantity of oil in amounts considered harmful more than 1,000 gallons of oil in a single discharge or more than 42 gallons in each of two discharges in any 12-month period (see 40 CFR part 110)?	☐ Yes	☐ No	☐ NA
	• If yes, was information submitted to the RA as required in §112.4(a)?	☐ Yes	☐ No	☐ NA
	• Date(s) of reportable discharge(s):			
	• Were they reported to the NRC?	☐ Yes	☐ No	☐ NA
112.4(d), (e)	Have changes required by the RA been implemented in the Plan and/or facility?	☐ Yes	☐ No	☐ NA
Comments:				

AMENDMENT OF SPCC PLAN BY THE OWNER OR OPERATOR—40 CFR 112.5				
112.5(a)	Has there been a change at the facility that materially affects the potential for a discharge?	☐ Yes	☐ No	☐ NA
	• If so, was the Plan amended within six months of the change?	☐ Yes	☐ No	☐ NA
112.5(b)	Review and evaluation of the Plan documented at least once every 5 years?	☐ Yes	☐ No	☐ NA
	• Following Plan review, and if amendment was required, was Plan amended within six months to include more effective prevention and control technology, if available?	☐ Yes	☐ No	☐ NA
112.5(c)	Professional Engineer certification of any technical Plan amendments in accordance with §112.3(d)	☐ Yes	☐ No	☐ NA
Name:	License No.:	State:	Date of certification:	
Reason for amendment:				
Amendments implemented within six months of any Plan amendment		☐ Yes	☐ No	☐ NA
Comments:				

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		**PLAN**	**FIELD**
Management approval at a level of authority to commit the necessary resources to fully implement the Plan ☐ Yes ☐ No			
Name:	Title:	Date:	
Plan follows sequence of the rule or provides a cross-reference of requirements in the Plan and the rule		☐ Yes ☐ No	
If Plan calls for facilities, procedures, methods, or equipment not yet fully operational, details of their installation and start-up are discussed *(Note: Relevant for inspection evaluation and testing baselines.)*		☐ Yes ☐ No ☐ NA	
112.7(a)(2)	If there are deviations from the requirements of the rule, the Plan states reasons for nonconformance	☐ Yes ☐ No ☐ NA	
	Alternative measures described in detail and provide equivalent environmental protection *(Note: Inspector should document if the environmental equivalence is implemented in the field)*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Describe each deviation and reasons for nonconformance:			
112.7(a)(3)	Plan includes diagram with location and contents of all regulated containers (including completely buried tanks otherwise exempt from the SPCC requirements), transfer stations, and connecting pipes	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(a)(3)	Plan addresses each of the following:		
(i)	For each container, type of oil and storage capacity (see Appendix A)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(ii)	Discharge prevention measures, including procedures for routine handling of products	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iii)	Discharge or drainage controls, such as secondary containment around containers, and other structures, equipment, and procedures for the control of a discharge	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iv)	Countermeasures for discharge discovery, response, and cleanup (both facility's and contractor's resources)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(v)	Methods of disposal of recovered materials in accordance with applicable legal requirements	☐ Yes ☐ No ☐ NA	
(vi)	Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors contracted to respond to a discharge, and all Federal, State, and local agencies who must be contacted in the case of a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(a)(4)	Plan includes information and procedures that enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge; the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and the names of individuals and/or organizations who have also been contacted (Not required if a facility has an FRP)	☐ Yes ☐ No ☐ NA	
112.7(a)(5)	Plan organized so that portions describing procedures to be used when a discharge occurs will be readily usable in an emergency (Not required if a facility has an FRP)	☐ Yes ☐ No ☐ NA	
112.7(b)	Plan includes a prediction of the direction, rate of flow, and total quantity of oil that could be discharged for each type of major equipment failure where experience indicates a reasonable potential for equipment failure	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(c)	Appropriate containment and/or diversionary structures provided to prevent a discharge as described in §112.1(b) before cleanup occurs. The entire containment system, including walls and floors, is capable of containing oil and is constructed to prevent escape of a discharge from the containment system before cleanup occurs. (1) **For onshore facilities**, one of the following or its equivalent: (i) dikes, berms, or retaining walls sufficiently impervious to contain oil, (ii) curbing, (iii) culverting, gutters or other drainage systems, (iv) weirs, booms or other barriers, (v) spill diversion ponds, (vi) retention ponds, or (vii) sorbent materials (See Appendix A)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(d)	Determination(s) of impracticability of secondary containment	☐ Yes ☐ No	
	If **YES,** is the impracticability of secondary containment clearly demonstrated?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Comments concerning impracticability determination(s) for secondary containment:		
	If impracticability determination is made, for bulk storage containers, periodic integrity testing of containers and leak testing of the valves and piping (associated with the container) is conducted	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	If impracticability determination is made, unless facility has FRP: (1) Contingency Plan following 40 CFR part 109 (see Appendix C) is provided **AND**	☐ Yes ☐ No ☐ NA	
	(2) Written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(e)	Inspections and tests conducted in accordance with written procedures	☐ Yes ☐ No ☐ NA	
	Record of inspections or tests signed by supervisor or inspector and kept with Plan for at least 3 years (see Appendix B checklist)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(f) Personnel, training, and oil discharge prevention procedures			
(1)	Training of oil-handling personnel in operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and contents of SPCC Plan	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Person designated as accountable for discharge prevention at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Discharge prevention briefings conducted at least once a year for oil handling personnel	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(h) Tank car and tank truck loading/unloading rack*			
(1)	Does loading/unloading area (the location adjacent to the **loading or unloading rack**) drainage flow to catchment basin or treatment facility? ☐ Yes ☐ No • If NO, quick drainage system used	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Containment system holds capacity of the largest single compartment of a tank car/truck loaded/unloaded at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Physical barriers, warning signs, wheel chocks, or vehicle brake interlock system in loading/unloading areas (the location adjacent to the **loading or unloading rack**) to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Lower-most drains and all outlets on tank cars/trucks inspected prior to filling/departure, and if necessary ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(i)	Brittle fracture evaluation of field-constructed aboveground containers		
112.7(i)	Brittle fracture evaluation is conducted after tank repair/alteration/change in service that might affect the risk of a discharge or after a discharge/failure due to brittle fracture or other catastrophe and appropriate action taken as necessary (for field-constructed aboveground containers)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(j)	State rules, regulations and guidelines and conformance with applicable sections of 40 CFR part 112		
112.7(j)	Discussion of conformance with applicable more stringent State rules, regulations, and guidelines and other effective discharge prevention and containment procedures listed in 40 CFR part 112	☐ Yes ☐ No ☐ NA	

Comments:

* Note that a tank car/truck loading/unloading rack must be present for §112.7(h) to apply. Though this requirement applies to all facilities, loading and unloading rack equipment is often not present at typical production facilities.

ONSHORE OIL PRODUCTION FACILITIES—112.9		PLAN	FIELD
112.9(b) Oil production facility drainage			
(1)	At tank batteries, separation and treating areas where there is a reasonable possibility of a discharge as described in §112.1(b), drainage is closed and sealed except when draining uncontaminated rainwater. Accumulated oil on the rainwater is returned to storage or disposed of in accordance with legally approved methods	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Prior to drainage, diked area inspected and action taken as provided in §112.8(c)(3)(ii), (iii), and (iv):		
	• 112.8(c)(3)(ii) Retained rainwater is inspected to ensure that its presence will not cause a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	• 112.8(c)(3)(iii) Bypass valve opened and resealed under responsible supervision	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	• 112.8(c)(3)(iv) Adequate records of drainage are kept; for example, records required under permits issued in accordance with §122.41(j)(2) and (m)(3)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Field drainage systems and oil traps, sumps, or skimmers inspected at regularly scheduled intervals for oil, and accumulations of oil promptly removed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.9(c) Oil production facility bulk storage containers			
(1)	Containers used are compatible with material stored and conditions of storage	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Secondary containment provided for all tank battery, separation and treating facilities with capacity to hold the largest single container and sufficient freeboard for precipitation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Drainage from undiked areas safely confined in a catchment basin or holding pond	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Periodically and upon a regular schedule, visually inspect containers on or above the surface of the ground for deterioration and maintenance needs, including foundations and supports	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4)	New and old tank batteries engineered/updated in accordance with good engineering practices to prevent discharges including at least one of the following: (i) adequate container capacity to prevent overfill if regular pumping/gauging is delayed; (ii) overflow equalizing lines between containers so that a full container can overflow to an adjacent container; (iii) vacuum protection to prevent container collapse; or (iv) high level sensors to generate and transmit an alarm to the computer where the facility is subject to a computer production control system	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

ONSHORE OIL PRODUCTION FACILITIES—112.9		**PLAN**	**FIELD**
112.9(d) Facility transfer operations			
(1)	All aboveground valves and piping associated with transfer operations are inspected periodically and upon a regular schedule. Include the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Saltwater (oil field brine) disposal facilities inspected often to detect possible system upsets capable of causing a discharge, particularly following a sudden change in atmospheric temperature	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Flowline maintenance program to prevent discharges from each flowline is established	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

ONSHORE OIL DRILLING AND WORKOVER FACILITIES—112.10		**PLAN**	**FIELD**
112.10(b)	Mobile drilling or workover equipment is positioned or located to prevent a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.10(c)	Catchment basins or diversion structures are provided to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.10(d)	Blowout prevention (BOP) assembly and well control system installed before drilling below any casing string or during workover operations	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	BOP assembly and well control system capable of controlling any well-head pressure that may be encountered while on the well	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

ADDITIONAL COMMENTS

Rule Provision	Comment

PHOTO DOCUMENTATION LOG	
Photo Number	**Description (include date and location)**

SPCC FIELD INSPECTION AND PLAN REVIEW TABLE

Appendix A: Documentation of Field Observations of Containers and Associated Requirements

Inspectors should use this table to document observations of containers, as needed.

Containers and Piping

Check containers for leaks, specifically looking for: drip marks, discoloration of tanks, puddles containing spilled or leaked material, corrosion, cracks, and localized dead vegetation, and standard/specifications of construction..

Check aboveground container foundation for: cracks, discoloration, puddles containing spilled or leaked material, settling, gaps between container and foundation, and damage caused by vegetation roots.

Check all piping for: droplets of stored material, discoloration, corrosion, bowing of pipe between supports, evidence of stored material seepage from valves or seals, evidence of leaks from flowlines, and localized dead vegetation. For all aboveground piping, include the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items. (Document in comments section of §112.9(d)).

Secondary Containment

Check secondary containment for: containment system (including walls and floor) ability to contain oil such that oil will not escape the containment system before cleanup occurs, proper sizing, cracks, discoloration, presence of spilled or leaked material (standing liquid), erosion, corrosion, penetrations in the containment system, and valve conditions.

Check dike or berm systems for: level of precipitation in dike/available capacity, operational status of drainage valves (closed), dike or berm impermeability, debris, erosion, impermeability of the earthen floor/walls of diked area, and location/status of pipes, inlets, drainage around and beneath containers, presence of oil discharges within diked areas.

Check drainage systems for: an accumulations of oil that may have resulted from any small discharge, including field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers. Ensure any accumulations of oil have been promptly removed.

Check retention and drainage ponds for: erosion, available capacity, presence of spilled or leaked material, debris, and stressed vegetation.

Container ID/ General Condition	Storage Capacity and Type of Oil	Type of Containment/ Drainage Control	Overfill Protection and Testing & Inspections

SPCC INSPECTION AND TESTING CHECKLIST

Appendix B: Required Documentation of Tests and Inspections

Records of inspections and tests required by 40 CFR part 112 signed by the appropriate supervisor or inspector must be kept with the SPCC Plan for a period of three years. Records of inspections and tests conducted under usual and customary business practices will suffice. Documentation of the following inspections and tests should be kept with the SPCC Plan.

Inspection or Test	Documentation		Not Applicable
	Present	Not Present	
112.7–General SPCC Requirements			
(a) Integrity testing is conducted for bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(d) Integrity and leak testing of valves and piping associated with bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(i) Evaluate field-constructed aboveground containers for potential for brittle fracture or other catastrophic failure when the container undergoes a repair, alteration, reconstruction or change in service			
112.9–Onshore oil production facilities			
(b)(1) Rainwater released directly from diked containment areas to a storm drain or open watercourse inspected and records of drainage kept			
(b)(2) Field drainage systems, oil traps, sumps, and skimmers inspected regularly for oil, and accumulations of oil promptly removed			
(c)(3) Regular visual inspections of containers, foundations and supports for deterioration and maintenance needs			
(d)(1) All aboveground valves and piping associated with transfer operations are regularly inspected			
(d)(2) Saltwater disposal facilities inspected often to detect possible system upsets capable of causing a discharge			
(d)(3) Specific and individual inspection, testing, and/or evaluation requirements as required by facility's flowline maintenance program			
Comments:			

SPCC CONTINGENCY PLAN REVIEW CHECKLIST

Appendix C: 40 CFR Part 109–Criteria for State, Local and Regional Oil Removal Contingency Plans

If a facility makes an impracticability determination for secondary containment in accordance with §112.7(d), it is required to provide an oil spill contingency plan following 40 CFR part 109.

109.5–Development and implementation criteria for State, local and regional oil removal contingency plans*	Yes	No
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.		
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:		
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.		
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.		
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).		
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.		
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:		
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.		
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.		
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.		
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:		
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.		
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.		
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.		
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.		
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.		
(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.		

* The contingency plan should be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

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Overview of the Checklist

This checklist is designed to assist EPA inspectors in conducting a thorough and consistent inspection of a facility's compliance with the Spill Prevention, Control, and Countermeasure (SPCC) rule at 40 CFR part 112. It is a tool to help federal inspectors (or their contractors) record observations during the site visit and review of the SPCC Plan. While the checklist is comprehensive, the inspector should always refer to the SPCC rule in its entirety, the *SPCC Regional Inspector Guidance Document,* and other relevant guidance for evaluating compliance. This checklist must be completed in order for an inspection to count toward an agency measure (i.e., OEM/OECA inspection measures or GPRA).

The checklist is organized according to the SPCC rule. Each item in the checklist identifies the relevant section and paragraph in 40 CFR part 112 where that requirement is stated. Sections 112.1 through 112.5 specify the applicability of the rule and requirements for the preparation, implementation, and amendment of SPCC Plans. For these sections, the checklist includes data fields to be completed, as well as several questions with "yes" or "no" answers.

Sections 112.7 through 112.11 specify requirements for spill prevention, control, and countermeasures. For these sections, the inspector needs to evaluate whether the requirement is addressed adequately or inadequately in the SPCC Plan and whether it is implemented adequately in the field (either by field observation or record review). For the SPCC Plan and implementation in the field, if a requirement is addressed adequately, mark the "Yes" box in the appropriate column. If a requirement is not addressed adequately, mark the "No" box. If a requirement does not apply to the particular facility, mark the "NA" box. If a provision of the rule applies only to the SPCC Plan, the "Field" column is shaded.

Space is provided in each section to record comments. Additional space is available on the comments page at the end of the checklist. Comments should remain factual and support the evaluation of compliance.

Appendix A is for recording information about containers and other locations at the facility that require secondary containment.

Appendix B is a checklist for documentation of the tests and inspections the facility operator is required to keep with the SPCC Plan.

Appendix C is a checklist for oil removal contingency plans. A contingency plan is required if a facility determines that secondary containment is impracticable as provided in 40 CFR 112.7(d).

U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIST
FOR USE AT OFFSHORE DRILLING, PRODUCTION, AND WORKOVER FACILITIES

FACILITY INFORMATION					
FACILITY NAME:					
ADDRESS:			LAT:	LONG:	
CITY:	STATE:	ZIP:	COUNTY:		
TELEPHONE:	FACILITY REPRESENTATIVE NAME:				
OWNER NAME:					
OWNER ADDRESS:					
CITY:	STATE:	ZIP:			
TELEPHONE:	OWNER CONTACT PERSON:				
FACILITY OPERATOR NAME (IF DIFFERENT FROM OWNER – IF NOT, PRINT "SAME"):					
OPERATOR ADDRESS:					
CITY:	STATE:	ZIP:			
TELEPHONE:	OPERATOR CONTACT PERSON:				
FACILITY TYPE:			NAICS CODE:		
HOURS PER DAY FACILITY ATTENDED:		TOTAL FACILITY CAPACITY:			
TYPE(S) OF OIL STORED:					
IS FACILITY LOCATED IN INDIAN COUNTRY? ☐ YES ☐ NO IF YES, RESERVATION NAME:					

INSPECTION INFORMATION		
INSPECTION DATE:	TIME:	INSPECTION NUMBER:
LEAD INSPECTOR:		
OTHER INSPECTOR(S):		

INSPECTOR ACKNOWLEDGMENT	
I performed an SPCC inspection at the facility specified above.	
INSPECTOR SIGNATURE:	DATE:

GENERAL APPLICABILITY—40 CFR 112.1

IS THE FACILITY REGULATED UNDER 40 CFR part 112?
The completely buried oil storage capacity is over 42,000 gallons, **OR** the aggregate aboveground oil storage capacity is over 1,320 gallons ☐ Yes ☐ No **AND**

The facility is a non-transportation-related facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location could reasonably be expected to discharge oil into or upon the navigable waters of the United States (as defined in 40 CFR 110.1). ☐ Yes ☐ No

AFFECTED WATERWAY(S):	DISTANCE:

PATH:

Note: The following storage capacity is not considered in determining applicability of SPCC requirements:

- *Completely buried tanks subject to all the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281.*
- *Equipment subject to the authority of the U.S. Department of Transportation, U.S. Department of the Interior, or Minerals Management Service, as defined in Memoranda of Understanding dated November 24, 1971, and November 8, 1993.*
- *Any facility or part thereof used exclusively for wastewater treatment (production, recovery or recycling of oil is not considered wastewater treatment).*
- *Containers smaller than 55 gallons.*
- *Permanently closed containers.*

Does the facility have an SPCC Plan? ☐ Yes ☐ No

Comments:

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3

Date facility began operations:

Date of initial SPCC Plan preparation:	Current plan version (date/number):

112.3(a)	For facilities in operation prior to August 16, 2002: • Plan amended by February 17, 2006	☐ Yes ☐ No ☐ NA
	• Amended Plan implemented by August 18, 2006	☐ Yes ☐ No ☐ NA
	For facilities beginning operation between August 17, 2002, and August 18, 2006, Plan prepared and fully implemented by August 18, 2006	☐ Yes ☐ No ☐ NA
112.3(b) & (c)	For facilities beginning operation after August 18, 2006, Plan prepared and fully implemented before beginning operations	☐ Yes ☐ No ☐ NA

112.3(d) Professional Engineer certification includes statement that the PE attests:

- PE is familiar with the requirements of 40 CFR part 112 ☐ Yes ☐ No
- PE or agent has visited and examined the facility ☐ Yes ☐ No
- Plan is prepared in accordance with good engineering practice including consideration of applicable industry standards and the requirements of 40 CFR part 112 ☐ Yes ☐ No
- Procedures for required inspections and testing have been established ☐ Yes ☐ No
- Plan is adequate for the facility ☐ Yes ☐ No

PE Name:	License No.:	State:	Date of certification:

112.3(e) Plan available onsite if facility is attended at least 4 hours/day ☐ Yes ☐ No ☐ NA
(If located at nearest field office, please note contact information below.)

Comments:

AMENDMENT OF SPCC PLAN BY REGIONAL ADMINISTRATOR (RA)—40 CFR 112.4		
112.4(a)	Has the facility discharged a reportable quantity of oil in amounts considered harmful: more than 1,000 gallons of oil in a single discharge or more than 42 gallons in each of two discharges in any 12-month period (see 40 CFR part 110)?	☐ Yes ☐ No
	• If yes, was information submitted to the RA as required in §112.4(a)?	☐ Yes ☐ No ☐ NA
	• Date(s) of reportable discharge(s): • Were they reported to the NRC?	☐ Yes ☐ No ☐ NA
112.4(d), (e)	Have changes required by the RA been implemented in the Plan and/or facility?	☐ Yes ☐ No ☐ NA
Comments:		

AMENDMENT OF SPCC PLAN BY THE OWNER OR OPERATOR—40 CFR 112.5			
112.5(a)	Has there been a change at the facility that materially affects the potential for a discharge?		☐ Yes ☐ No ☐ NA
	• If so, was the Plan amended within six months of the change?		☐ Yes ☐ No ☐ NA
112.5(b)	Review and evaluation of the Plan documented at least once every 5 years?		☐ Yes ☐ No ☐ NA
	• Following Plan review, and if amendment was required, was Plan amended within six months to include more effective prevention and control technology, if available?		☐ Yes ☐ No ☐ NA
112.5(c)	Professional Engineer certification of any technical Plan amendments in accordance with §112.3(d)		☐ Yes ☐ No ☐ NA
Name:	License No.:	State:	Date of certification:
Reason for amendment:			
Amendments implemented within six months of any Plan amendment			☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
Management approval at a level of authority to commit the necessary resources to fully implement the Plan		☐ Yes ☐ No	
Name:	Title:	Date:	
Plan follows sequence of the rule or provides a cross-reference of requirements in the Plan and the rule		☐Yes ☐ No	
If Plan calls for facilities, procedures, methods, or equipment not yet fully operational, details of their installation and start-up are discussed *(Note: Relevant for inspection evaluation and testing baselines.)*		☐Yes ☐ No ☐ NA	
112.7(a)(2)	If there are deviations from the requirements of the rule, the Plan states reasons for nonconformance	☐Yes ☐ No ☐ NA	
	Alternative measures described in detail and provide equivalent environmental protection *(Note: Inspector should document if the environmental equivalence is implemented in the field.)*	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
Describe each deviation and reasons for nonconformance:			
112.7(a)(3)	Plan includes diagram with location and contents of all regulated containers (including completely buried tanks otherwise exempt from the SPCC requirements), transfer stations, and connecting pipes	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
112.7(a)(3)	Plan addresses each of the following:		
	(i) For each container, type of oil and storage capacity (see Appendix A)	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
	(ii) Discharge prevention measures, including procedures for routine handling of products	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
	(iii) Discharge or drainage controls, such as secondary containment around containers, and other structures, equipment, and procedures for the control of a discharge	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
	(iv) Countermeasures for discharge discovery, response, and cleanup (both facility's and contractor's resources)	☐Yes ☐ No ☐ NA	☐Yes ☐ No ☐ NA
	(v) Methods of disposal of recovered materials in accordance with applicable legal requirements	☐Yes ☐ No ☐ NA	
	(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors contracted to respond to a discharge, and all Federal, State, and local agencies who must be contacted in the case of a discharge as described in §112.1(b)	☐Yes ☐ No ☐ NA	
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(a)(4)	Plan includes information and procedures that enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge; the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and the names of individuals and/or organizations who have also been contacted	☐ Yes ☐ No ☐ NA	
112.7(a)(5)	Plan organized so that portions describing procedures to be used when a discharge occurs will be readily usable in an emergency	☐ Yes ☐ No ☐ NA	
112.7(b)	Plan includes a prediction of the direction, rate of flow, and total quantity of oil that could be discharged for each type of major equipment failure where experience indicates a reasonable potential for equipment failure	☐ Yes ☐ No ☐ NA	
112.7(c)	Appropriate containment and/or diversionary structures provided to prevent a discharge as described in §112.1(b) before cleanup occurs. The entire containment system, including walls and floors, is capable of containing oil and is constructed to prevent escape of a discharge from the containment system before a cleanup occurs. ... (2) **For offshore facilities**: (i) curbing or drip pans, or (ii) sumps and collection systems (See Appendix A)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(d)	Determination(s) of impracticability of secondary containment	☐ Yes ☐ No	
	If **YES,** is the impracticability of secondary containment clearly demonstrated?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Comments concerning impracticability determination(s) for secondary containment:		
	If impracticability determination is made, for bulk storage containers, periodic integrity testing of containers and leak testing of the valves and piping associated with the container is conducted	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	If impracticability determination is made: (1) Contingency Plan following 40 CFR part 109 (see Appendix C) is provided **AND**	☐ Yes ☐ No ☐ NA	
	(2) Written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(e)	Inspections and tests conducted in accordance with written procedures	☐ Yes ☐ No ☐ NA	
	Record of inspections or tests signed by supervisor or inspector and kept with Plan for at least 3 years (see Appendix B checklist)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		**PLAN**	**FIELD**
112.7(f) Personnel, training, and oil discharge prevention procedures			
(1)	Training of oil-handling personnel in operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and contents of SPCC Plan	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Person designated as accountable for discharge prevention at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Discharge prevention briefings conducted at least once a year for oil handling personnel	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(h) Tank car and tank truck loading/unloading rack*			
(1)	Does loading/unloading area (the location adjacent to the **loading or unloading rack**) drainage flow to catchment basin or treatment facility? ☐ Yes ☐ No • If NO, quick drainage system used	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Containment system holds capacity of the largest single compartment of a tank car/truck loaded/unloaded at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Physical barriers, warning signs, wheel chocks, or vehicle brake interlock system in loading/unloading areas (the location adjacent to the **loading or unloading rack**) to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Lower-most drains and all outlets on tank cars/trucks inspected prior to filling/departure, and if necessary ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(i)	Brittle fracture evaluation of field-constructed aboveground containers		
112.7(i)	Brittle fracture evaluation is conducted after tank repair/alteration/change in service that might affect the risk of a discharge or after a discharge/failure due to brittle fracture or other catastrophe, and appropriate action taken as necessary (for field-constructed aboveground containers)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(j)	State rules, regulations and guidelines and conformance with applicable sections of 40 CFR part 112		
112.7(j)	Discussion of conformance with applicable more stringent State rules, regulations, and guidelines and other effective discharge prevention and containment procedures listed in 40 CFR part 112	☐ Yes ☐ No ☐ NA	

Comments:

* Note that a tank car/truck loading/unloading rack must be present for §112.7(h) to apply. Though this requirement applies to all facilities, loading and unloading rack equipment is often not present at typical offshore production facilities.

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

OFFSHORE OIL DRILLING, PRODUCTION, OR WORKOVER FACILITIES—112.11		PLAN	FIELD
112.11(b)	Oil drainage collection equipment used to prevent and control small discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Facility drains are controlled and directed toward a central collection sump to prevent a discharge as described in §112.1(b); if drains and sumps not practicable, oil in collection equipment removed as often as necessary to prevent overflow	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(c)	For facilities using a sump system, sump and drains adequately sized	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	For facilities using a sump system, spare pump available to remove liquids and assure that oil does not escape	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of liquid removal system and pump start-up device	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Redundant automatic sump pumps and control devices are installed if necessary	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(d)	If separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, facility equipped to prevent discharges by (1) extending the flare line to a diked area if the separator is near shore, (2) equipping separator with high liquid level sensor to automatically shut in wells producing to the separator, OR (3) installing parallel redundant dump valves	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(e)	Atmospheric storage or surge containers equipped with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			

INDICATE IF ITEM IS ADDRESSED ADEQUATELY (Yes), INADEQUATELY (No), OR IS NOT APPLICABLE (NA) IN PLAN AND FIELD.

OFFSHORE OIL DRILLING, PRODUCTION, OR WORKOVER FACILITIES—112.11		PLAN	FIELD
112.11(f)	Pressure containers equipped with high and low pressure sensing devices that activate an alarm or control the flow	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(g)	Containers equipped with suitable corrosion protection	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(h)	Written procedures maintained in the SPCC plan for inspecting and testing pollution prevention equipment and systems	☐ Yes ☐ No ☐ NA	
112.11(i)	Testing and inspection of pollution prevention equipment and systems conducted on a scheduled periodic basis commensurate with the complexity, conditions, and circumstances of the facility and any other applicable regulations. Simulated discharges are used for testing and inspecting human and equipment pollution control and countermeasure systems	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(j)	Detailed records are provided that describe surface and subsurface well shut-in valves and devices in use at the facility for each well. Records are sufficient to determine the method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, or manual or remote control mechanisms	☐ Yes ☐ No ☐ NA	
112.11(k)	Blowout prevention (BOP) assembly and well control system installed before drilling below any casing string and during workover operations	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	BOP assembly and well control system capable of controlling any well-head pressure that may be encountered while on the well	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(l)	Manifolds (headers) equipped with check valves on individual flowlines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(m)	If the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves, flowlines are equipped with a high pressure sensing device and shut-in valve at the wellhead, **OR** pressure relief system provided for flowlines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(n)	Piping appurtenant to the facility is protected from corrosion, such as with protective coatings or cathodic protection	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(o)	Sub-marine piping appurtenant to the facility is protected against environmental stresses and other activities such as fishing operations	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.11(p)	Sub-marine piping maintained in good operating condition at all times. Piping periodically inspected or tested on a regular schedule for failures. Documentation of inspections or tests kept at facility.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

Comments:

ADDITIONAL COMMENTS

Rule Provision	Comment

PHOTO DOCUMENTATION LOG

Photo Number	Description (include date and location)

SPCC FIELD INSPECTION AND PLAN REVIEW TABLE

Appendix A: Documentation of Field Observations for Containers and Associated Requirements

Inspectors should use this table to document observations of containers, as needed.

Containers

Check containers for the following: (1) atmospheric storage or surge containers are equipped with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges (2) pressure containers are equipped with high and low pressure sensing devices that activate an alarm or control the flow (3) containers are equipped with suitable corrosion protection.

Check piping for: droplets of stored material, discoloration, corrosion, bowing of pipe between supports, evidence of stored material seepage from valves or seals, and localized dead vegetation.

Secondary Containment

Check secondary containment for: containment system (including walls and floor) ability to contain oil such that oil will not escape the containment system before cleanup occurs, cracks, discoloration, presence of spilled or leaked material (standing liquid), corrosion, and valve conditions.

Container ID/General Condition	Storage Capacity and Type of Oil	Type of Containment/ Drainage Control	Overfill Protection and Testing & Inspections

SPCC INSPECTION AND TESTING CHECKLIST

Appendix B: Required Documentation of Tests and Inspections

Records of inspections and tests required by 40 CFR part 112 signed by the appropriate supervisor or inspector must be kept with the SPCC Plan for a period of three years. Records of inspections and tests conducted under usual and customary business practices will suffice. Documentation of the following inspections and tests should be kept with the SPCC Plan.

Inspection or Test		Documentation		Not Applicable
		Present	Not Present	
112.7–General SPCC Requirements				
(d)	Integrity testing is conducted for bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(d)	Integrity and leak testing of valves and piping associated with bulk storage containers with no secondary containment system and for which an impracticability determination has been made			
(i)	Evaluate field-constructed aboveground containers for potential for brittle fracture or other catastrophic failure when the container undergoes a repair, alteration, reconstruction or change in service			
112.11–Offshore oil drilling, production and workover facilities				
(c)	Regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of liquid removal system and pump start-up device			
(i)	Testing and inspection of pollution prevention equipment and systems performed on a scheduled periodic basis. Simulated discharges are used for testing and inspecting human and equipment pollution control and countermeasure systems			
(p)	Submarine piping periodically inspected or tested for failures.			
Comments:				

SPCC CONTINGENCY PLAN REVIEW CHECKLIST

Appendix C: 40 CFR Part 109–Criteria for State, Local and Regional Oil Removal Contingency Plans

If a facility makes an impracticability determination for secondary containment in accordance with §112.7(d), it is required to provide an oil spill contingency plan following 40 CFR part 109.

109.5–Development and implementation criteria for State, local and regional oil removal contingency plans*	**Yes**	**No**
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.		
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:		
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.		
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.		
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).		
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.		
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:		
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.		
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.		
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.		
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:		
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.		
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.		
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.		
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.		
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.		
(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.		

* The contingency plan should be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

APPENDIX H: OTHER POLICY DOCUMENTS

Letter to Melissa Young of Petroleum Marketers Association of America (2001)

Letter to Daniel Gilligan of Petroleum Marketers Association of America (May 25, 2004)

Letter to Mr. Chris Early of Safety-Kleen Corporation (July 14, 2004)

DOT/EPA Memo "Jurisdiction over Breakout Tanks/Bulk Oil Storage Tanks (Containers) at Transportation-Related and Non-Transportation-Related Facilities" (February 4, 2000)

FRP rule attachments C-I and C-II

Melissa Young, Esq.
Government Affairs Counsel
Petroleum Marketers Association of America
1901 N. Fort Meyer Drive
Suite 1200
Arlington, Virginia 22209-1604

Dear Ms. Young:

Thank you for your letter to Administrator Whitman of February 5, 2001, which she has referred to me for an answer.

You explained that a marketer was notified by an Environmental Protection Agency (EPA) inspector that her facility, which is below the 42,000 gallon underground storage tank threshold capacity, would need a Spill Prevention, Control, and Countermeasure (SPCC) Plan, because she parks her 2,500 gallon cargo tank motor vehicle at the facility in the evenings. You noted that it is used to deliver petroleum products in commerce, not as a mobile fueling facility and that it is emptied before it is parked for the evening.

EPA presumes that a cargo tank motor vehicle that contains no oil, other than any residual oil present in an emptied vehicle when it is parked at the facility in the evening, is a highway vehicle used for the transport of oil in interstate or intrastate commerce, and is therefore transportation-related, and not subject to SPCC jurisdiction. 40 CFR 112, Appendix A, Section II(2)(D). You should be aware, however, if the vehicle were to be used at any time in a fixed operating non-transportation mode, such as the storage or transfer of oil in any amount, other than any residual oil present in an emptied vehicle at the end of the day, then it would become subject to the SPCC rule if there were a reasonable possibility of discharge from the vehicle to navigable waters or adjoining shorelines. See 40 CFR 112.3(c); and 40 CFR 112, Appendix A, Section II(1)(F).

To determine if a fixed operating non-transportation mode has begun, and therefore EPA SPCC jurisdiction arises, an EPA inspector would will look at all the circumstances at a particular facility. Here, such circumstances might include whether the vehicle is functioning as a storage tank, supplementing storage capacity or transferring oil at the facility. We believe the vehicle you described is operating in a transportation-related mode, and therefore, no EPA SPCC regulatory jurisdiction arises. We note that if the vehicle itself were to be subject to the SPCC rule, it exceeds the SPCC regulatory threshold regardless of any other storage or use of oil at the facility. We also note that if it is used for the transport of oil exclusively within the confines of a facility and is not intended to transport oil in interstate or intrastate commerce, it may be subject to the SPCC rule. 40 CFR 112, Appendix A, Section II(1)(J).

Again, thank you for your letter. Please do not hesitate to contact us again if you have other questions concerning EPA's oil program. If you have any questions about this letter, please contact Hugo Fleischman at 703-603-8769 or Mark Howard at 703-603-8715.

Sincerely,

Stephen F. Heare, Acting Deputy Director,
Office of Emergency and Remedial Response

cc: Clifford J. Harvison, NTTC
James Malcolm, MC 2131
Susan Gorsky, DOT

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Daniel Gilligan, President
Petroleum Marketers Association of America
1901 N. Fort Myer Drive- Suite 500
Arlington, VA 22209-1604

Dear Mr. Gilligan:

This letter is in response to your request for the Agency's view regarding whether several approaches under consideration by your members would satisfy 40 CFR §112.7(a)(2)'s "equivalent environmental protection" provision and for clarification of the scope of the requirements in 40 CFR §112.7(h)(entitled "Facility tank car and tank truck loading/unloading rack (excluding offshore facilities)"). We discuss each of your proposals and questions below. Please note that the guidance provided in this letter is based on generalized assumptions and may not be applicable in a particular case based on site-specific circumstances.

"Equivalent Environmental Protection"

Integrity Testing

The newly amended SPCC provisions regarding bulk storage container integrity require, among other things, that each aboveground container be tested for integrity "on a regular schedule." 40 CFR §112.8(c)(6). These regulations further provide that "you must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing." As you know, however, the regulations also allow deviations from this requirement where "you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure." 40 CFR §112.7(a)(2). You have asked whether, for shop-built containers, visual inspection plus certain actions to ensure that the containers are not in contact with the soil would likely be considered to provide "equivalent environmental protection" to visual inspection plus another form of testing.

It is our view that for well-designed shop-built containers with a shell capacity of 30,000 gallons or under, combining appropriate visual inspection with the measures described below would generally provide environmental protection equivalent to that provided by visual inspection plus another form of testing. Specifically, the Agency generally believes that visual inspection plus elevation of a shop-built container in a manner that decreases corrosion potential (as compared to a container in contact with soil)[1] and makes all sides of the container, including the bottom, visible during inspection (e.g., where the containers are mounted on structural supports, saddles, or some forms of grillage) would be considered "equivalent." In a similar vein, we'd also generally believe an approach that combines visual inspection with placement of a barrier between the container and the ground, designed and operated in a way that ensures that any leaks are immediately detected, to be considered "equivalent." For example, we believe it would generally provide equivalent environmental protection to place a shop-built container on an adequately designed, maintained, and inspected synthetic liner.[2] We believe these approaches would generally provide equivalent environmental protection when used for shop-built containers (which generally have a lower failure potential than field-erected containers), because these approaches generally reduce corrosion potential and ensure detection of any container failure before it becomes significant.

In determining the appropriate SPCC plan requirements for visual inspection of containers managed as described above, we suggest that the professional engineer (PE) begin by consulting appropriate industry standards, such as those listed in Steel Tank Institute Standard SP001 and American Petroleum Institute Standard 653.[3] Similarly, in assessing whether a shop-built container is well designed, the PE may wish to consult industry standards such as Underwriters Laboratory 142 or American Petroleum Institute Standard 650, Appendix J. Where a facility is considering the use of the above approaches for containers that are currently resting on the ground, or have otherwise been managed in a way that presents risks for corrosion or are showing signs of corrosion, we recommend the facility first evaluate the condition of the

[1]Additionally, we recommend that special attention be paid to the characteristics of the material used for the support structure to ensure that they do not actually accelerate corrosion.

[2]Note, however, that a facility may not rely solely on measures that are required by other sections of the rule (e.g., secondary containment) to provide "equivalent environmental protection." Otherwise, the deviation provision would allow for approaches that provide a lesser degree of protection overall.

[3]Note that the Agency intends in the near future to develop guidance on appropriate visual inspection of shop-built containers. In that guidance, we intend to address issues such as inspection frequency, scope (e.g., internal and /or external), training and/or qualifications of persons conducting the inspections, and other measures that may be appropriate at a given site (e.g., measures to detect the presence of water in a container). We expect to use the referenced industry standards in developing such guidance.

It is also important to note, however, that depending on site circumstances, the appropriate requirements for visual inspection may exceed those normally conducted in accordance with recognized industry standards.

container in accordance with good engineering practices, including seeking expert advice, where appropriate.

Security

The SPCC regulations state that you must "fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended." 40 CFR §112.7(g)(1). You have asked whether two specific sets of circumstances would likely be determined to provide "equivalent environmental protection" to this requirement. The first is where the area of the facility directly involved in the handling, processing and storage of oil is adequately fenced. The second is where the facility is equipped with a "pump house" or "pump shack," which contains, among other appropriate things, a master disconnect switch from which all power to pumps and containers is cut off when the facility is unattended**.**

With respect to your first scenario, it is our view that, as a general matter, adequately fencing all discrete areas directly involved in the handling, processing and storage of oil would provide equivalent environmental protection to fencing the entire footprint of the facility, since it is potential for harm to this equipment that poses the risk addressed by the fencing requirement.

With respect to the second scenario, the approach you suggest would appear to generally provide environmental protection equivalent to fencing for risks associated with the potential for unauthorized access to pumping equipment. In other words, cutting off power in the manner you suggest would likely provide the added layer of protection offered by a fence should the other security measures offered by the rule, in this case 40 CFR §112.7(g)(3)'s requirements for securing pumps, fail. However, because cutting off power as suggested does not address risks to containers, piping and appurtenances not associated with the pumps at the facility, it does not appear to provide protection equivalent to fencing as it relates to risks to such equipment.

Conclusion

Please note that determinations of "equivalent environmental protection" must be implemented and documented in accordance with 40 CFR §112.7(a)(2). In addition, please be aware that the conclusions drawn in this letter are only for the purposes of meeting the "environmental equivalence" standard in the SPCC regulation. PE's might nevertheless decide to recommend non-destructive shell testing and fencing of the entire footprint of the facility for reasons other than compliance with the SPCC rule (e.g., to protect an owner's investment in equipment or to meet other local, state or federal requirements).

Finally, this letter is meant to provide guidance on the "equivalent environmental protection" standard. It does not, however, substitute for EPA's statutes or regulations, nor does it itself constitute a regulation. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and its recommendations may not be appropriate at an individual site based on site-specific circumstances.

Sincerely,

Marianne Larmont Horinko
Assistant Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 14 2000

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

Mr. Chris Early
Safety-Kleen Corporation
1301 Gervais Street
Columbia, SC 29201

Dear Mr. Early:

Thank you for your e-mail of May 31, 2000. Through this letter, we respond to the questions you posed in your e-mail.

Your first set of questions concerned the meaning of the terms "transportation-related" and "non-transportation-related" as they relate to SPCC facilities. You also raised issues concerning transfers of oil in the first set of questions. You posed the fact situation of "a rail car containing oil that enters my site by crossing site boundaries." You added that the "rail car is one of many rail cars and is the only rail car containing oil." We will repeat your questions, and answer them immediately below. We note that we have coordinated our response with the U.S. Department of Transportation (DOT).

1. **Question:** "If the rail car is passing through my facility and the oil contained in this rail car is not loaded or unloaded is it subject to the SPCC requirements including SPCC Plan and containment system/diversionary structure or proof of impracticability requirements? Or, is this rail car subject to DOT requirements because it is considered as a transportation-related unit?"

Answer: As a general rule, we will presume that the rail car is considered to be a "transportation-related facility" under the 1971 Memorandum of Understanding (MOU) between DOT and the U.S. Environmental Protection Agency (EPA) if it is consigned to your property or is consigned elsewhere and is being stored incidental to transportation in commerce. Storage incidental to transportation in commerce is storage between the time the oil is offered for transportation to a carrier until the time that it reaches its destination and is accepted by the consignee, assuming no circumstances marking an end to the transportation process. EPA will consider all the circumstances concerning the presence of the rail car at the facility before determining that there has been an end to the transportation process and a beginning of non-transportation-related storage subject to SPCC requirements. If non-transportation-related storage has begun, the rail car will be subject to SPCC requirements if it contains above the regulatory threshold amount and there is a reasonable possibility of discharge from the rail car to navigable waters or adjoining shorelines. If the rail car is consigned to the Safety-Kleen facility, as indicated on shipping papers, bills of lading, or other shipping documentation, then transportation of the rail car ends once it arrives at the facility, and the rail car is subject to SPCC requirements. However, if the rail car is consigned to a different facility and is merely passing through the Safety-Kleen facility on its way to its consigned destination with no unreasonable delays, then the rail car is considered to be in storage incidental to transportation in commerce and is not subject to SPCC requirements. Instead the car is subject to applicable DOT requirements for the duration of such transportation.

2. **Question:** "If this rail car stops on my property for any period of time but the oil in the rail car is never loaded or unloaded is it subject to SPCC requirements at any time including SPCC Plan and containment system/diversionary structure or proof of impracticability requirements?"

Answer: See the answer to Question 1 above.

3. **Question:** "If the rail car is loaded or unloaded at any time is it subject to SPCC Plan and containment system/diversionary structure or proof of impracticability requirements?"

Answer: The loading or unloading of the rail car may mark an end to the transportation process and the beginning of non-transportation-related storage, triggering all SPCC requirements, assuming that the rail car stores oil in an amount above the regulatory threshold and that there is a reasonable possibility of discharge to navigable waters or adjoining shorelines. In this case, the rail car itself may become the non-transportation-related facility even if no other containers at the property would qualify the property as a non-transportation-related facility.

4. **Question:** "If the rail car is loaded/unloaded intermittently (i.e., over a period of 14 days oil in the rail car is unloaded on two consecutive Mondays) is the rail car subject to SPCC requirements only during the loading events including SPCC Plan and containment system/diversionary structure or proof of impracticability requirements?"

Answer: The loading or unloading of the rail car, whether intermittent or not, may mark an end to the transportation process and the beginning of non-transportation-related storage, triggering all SPCC requirements, assuming that the rail car stores oil in an amount above the regulatory threshold and that there is a reasonable possibility of discharge to navigable waters or adjoining shorelines. In this case, the rail car itself may become the non-transportation-related facility even if no other containers at the property would qualify the property as a non-transportation-related facility.

5. **Question:** "If the rail car enters my site (1/3 crosses the facility boundaries), is any portion of the rail car subject to SPCC Plan requirements including SPCC Plan and

containment system/diversionary structure or proof of impracticability requirements?"

Answer: If by entry on the site, the rail car has reached its ultimate destination, then the transportation process has ended and non-transportation-related storage has begun, triggering all SPCC requirements, assuming that the rail car stores oil in an amount above the regulatory threshold and that there is a reasonable possibility of discharge to navigable waters or adjoining shorelines. In this case, the rail car itself becomes the non-transportation-related facility even if no other containers at the property would qualify the property as a non-transportation-related facility.

Your second set of questions posited the fact situation that you demonstrate in your SPCC Plan that it is impracticable to provide containment systems/diversionary structures and instead provide a strong oil contingency plan.

1. **Question:** "Does the word 'demonstrate' used here indicate that the SPCC Plan will only require certification by a Registered Professional Engineer no matter the reason used to determine impracticability?"

Answer: The owner or operator of the facility must demonstrate impracticability if he cannot provide secondary containment. The Professional Engineer must certify that demonstration of impracticability. If the Regional Administrator disagrees with the owner or operator's determination, he may require that the owner or operator amend his Plan.

2. **Question:** "In developing a strong Oil Contingency Plan who determines if the plan is 'strong' enough to respond and prevent released oil from reaching navigable water?"

Answer: The owner or operator of the facility must determine that the Contingency Plan is adequate to meet regulatory requirements. The Professional Engineer must certify that determination. If the Regional Administrator disagrees with the owner or operator's determination, he may require that the owner or operator amend his Plan.

Your third set of questions asked "at what point the following transportation-related facility units become non-transportation related and subject to SPCC requirements."

a. **Question:** "Rail car"

Answer: A rail car may or may not be transportation-related, depending on the use to which it is put. See the 1971 MOU, § II(1)(F), (1)(J), and (2)(D).

b. **Question:** "Any vehicle with oil capacity of 660 gallons."

Answer: A vehicle may or may not be transportation-related, depending on the use to which it is put. See the 1971 MOU, § II(1)(F), (1)(J), and (2)(D).

Again, thank you for your e-mail. Should you have any questions concerning this letter, please contact Hugo Fleischman of my staff at 703-603-8769. Please do not hesitate to contact us again should you have other questions.

Sincerely,

David Lopez, Director
Oil Program Center

cc: Susan Gorsky, DOT

U.S. Department
of Transportation

Research &
Special Programs
Administration

400 Seventh Street S.W.
Washington, D.C. 20590

FEB - 4 2000

U.S. Environmental
Protection Agency

Office Solid Waste &
Emergency Response

401 M Street, SW, 5201G
Washington, DC 20460

From: Associate Administrator, Office of Pipeline Safety,

Stephen D. Luftig, Director, Office of Emergency and Remedial Response, United States Environmental Protection Agency

To: Department of Transportation, Office of Pipeline Safety Regional Directors

Director, Office of Site Remediation and Restoration EPA Region I
Director, Emergency and Remedial Response Division EPA Region II
Directors, Hazardous Waste Management Division EPA Regions III and IX
Director, Waste Management Division EPA Regions IV, VIII
Directors, Superfund Division EPA Regions V, VI, VII
Director, Environmental Cleanup Office EPA Region X

Subject: Jurisdiction over Breakout Tanks/Bulk Oil Storage Tanks (Containers) at Transportation-Related and Non-Transportation-Related Facilities

I. Purpose

The purpose of this agreement is to clarify jurisdictional issues and establish mutual goals for the Office of Emergency and Remedial Response, Environmental Protection Agency (EPA) and the Office of Pipeline Safety, Department of Transportation (DOT). This letter does not amend the 1971 MOU between the EPA and DOT or redelegate any responsibilities agreed to under that MOU or previously assigned to DOT or EPA under Executive Order 12777 or any previous Executive Order.

II. Authority and History

Section 311 of the Clean Water Act (CWA) (33 U.S.C. 1321) gives the President authority to issue regulations regarding prevention, preparedness, and response planning for facilities. Executive Order 12777, signed on October 18, 1991, delegates responsibilities under CWA Section 311 to EPA to issue regulations regarding prevention, preparedness, and response planning for non-transportation-related onshore facilities. EPA was also delegated responsibility to establish procedures, methods, and equipment and other requirements to prevent and contain discharges of oil and hazardous substances from non-transportation-related onshore facilities. Those regulations are found at 40 CFR 112. DOT was delegated authority to issue regulations regarding prevention, preparedness, and response planning at transportation-related onshore facilities. DOT was also delegated responsibility to establish procedures, methods, and equipment and other requirements to prevent and contain discharges of oil and hazardous substances from transportation-related onshore facilities. DOT issued response planning regulations for transportation-related onshore oil pipelines, found at 49 CFR 194.

DOT also issued safety standards found at 49 CFR 195 for pipeline facilities under the Pipeline Safety Act of 1992 (49 U.S.C. 60101). DOT considers environmental factors when issuing pipeline safety standards.

III. Current Status at Complex Facilities

A 1971 Memorandum of Understanding (MOU) between the EPA and DOT defines transportation and non-transportation-related activities. A facility with both transportation-related and non-transportation-related activities is a “complex facility” and is subject to the dual jurisdiction of EPA and DOT. Both EPA and DOT have determined that the definition of a complex facility, as currently interpreted under both agencies programs, can include an entire facility or a single tank. Owners or operators of a complex facility must comply with all the regulatory requirements of both agencies when both agencies have jurisdiction. An example of dual jurisdiction is a bulk storage container serving as a tank storing oil while also serving as a breakout tank for a pipeline or other transportation purposes. Attachments 1-10 provide practical examples of complex facilities showing jurisdictional delineation to minimize potential confusion over regulatory responsibility.

IV. Next Steps

To improve communications, both DOT and EPA have initiated talks at the Headquarters level. These talks will be expanded to include regional representatives. Better communications entails; (1) improving information sharing on pipeline and tank incidents resulting in discharges to navigable water, material failures, human errors and other activities resulting in a discharge; (2) improving information sharing relating to pollution prevention, preparedness, and response; (3) sharing critiques of response efforts by EPA On-Scene Coordinators (OSCs) with DOT to enhance response planning of the pipeline operator (DOT may also consider these critiques in revisions to its regulations); (4) including an EPA participant on the Technical Hazardous Liquid Pipeline Safety Standards Committee (THLPSSC); (5) including a DOT Office of Pipeline Safety Regional member on each Inland Area Committee who may advise the EPA OSC on issues related to pipelines and breakout tanks; (6) continuing the DOT practice of offering EPA OSCs the opportunity to review submitted response plans before DOT approval; and (7) continuing discussions to resolve the jurisdictional issues surrounding oil gathering lines and their associated tanks.

Cross training is also important. EPA will make space available for DOT representatives to attend Spill Prevention, Control, and Countermeasure and Facility Response Planning training courses. DOT will make space available for EPA representatives and OSCs to attend courses in pipeline safety and inspection. DOT and EPA personnel will establish the appropriate level of participation in these training opportunities over the next three years. The agencies will also explore other opportunities for cross training including the Freshwater Spill Symposium, Preparedness for Response Exercise Program (PREP), etc.

DOT and EPA will establish procedures for the joint inspection of facilities subject to dual jurisdiction. A joint inspection will be considered the equivalent of a separate inspection by each agency. DOT and EPA will identify risk factors to consider when identifying high-priority/high-risk facilities subject to joint inspections. These risk factors include, but are not limited to; proximity to densely populated areas, proximity to navigable waters or environmentally sensitive areas as defined in Area Contingency Plans or other appropriate documents, areas likely to be subject to natural disasters, facility spill history, and compliance history. DOT and EPA regional representatives will use the procedures to identify those facilities that will be jointly inspected by both agencies. Facilities should be offered the opportunity to elect to participate in joint inspections. A joint inspection does not abridge the ability of each agency to implement enforcement activities arising from those inspections, nor limit the right to conduct separate inspections of any facility subject to dual jurisdiction. DOT and EPA will endeavor to conduct six to ten joint inspections nationwide within one year of this memorandum. The agencies will assess the effectiveness of the joint inspection program at the completion of all of the joint inspections.

V. Immediate Considerations and Long Term Goals

While DOT and EPA have different historical emphases, our respective goals are complementary. The mutual long term goals of EPA and DOT are:

1. To ensure that all breakout tanks/bulk storage containers are appropriately regulated under all applicable statutes,
2. That the rules and enforcement practices of both agencies are substantially equivalent to the extent possible and,
3. That as many facilities as possible are subject to single jurisdiction in the interest of regulatory efficiency.

DOT and EPA want to encourage the use of tank management programs which exemplify "best practices/good engineering and operational practices" in the industry. Our efforts to recognize excellence in performance will enable both agencies to funnel lessons back into our tank programs to ensure that they are dynamic and able to keep pace with developments in the filed. Both agencies share the goal of improving the effectiveness of our tank inspection programs while focusing our limited resources on those facilities that pose the greatest risk to the environment

Over a five-year period, DOT and EPA shall undertake joint efforts to measure the effectiveness of DOT and EPA regulatory programs in protecting the environment and contributing to the safety of the regulated industry. The agencies will determine and agree upon factors including, but not limited to regulations, implementation, enforcement, and additional exemplary protective measures. DOT and EPA may invite the Coast Guard to participate in or review these efforts.

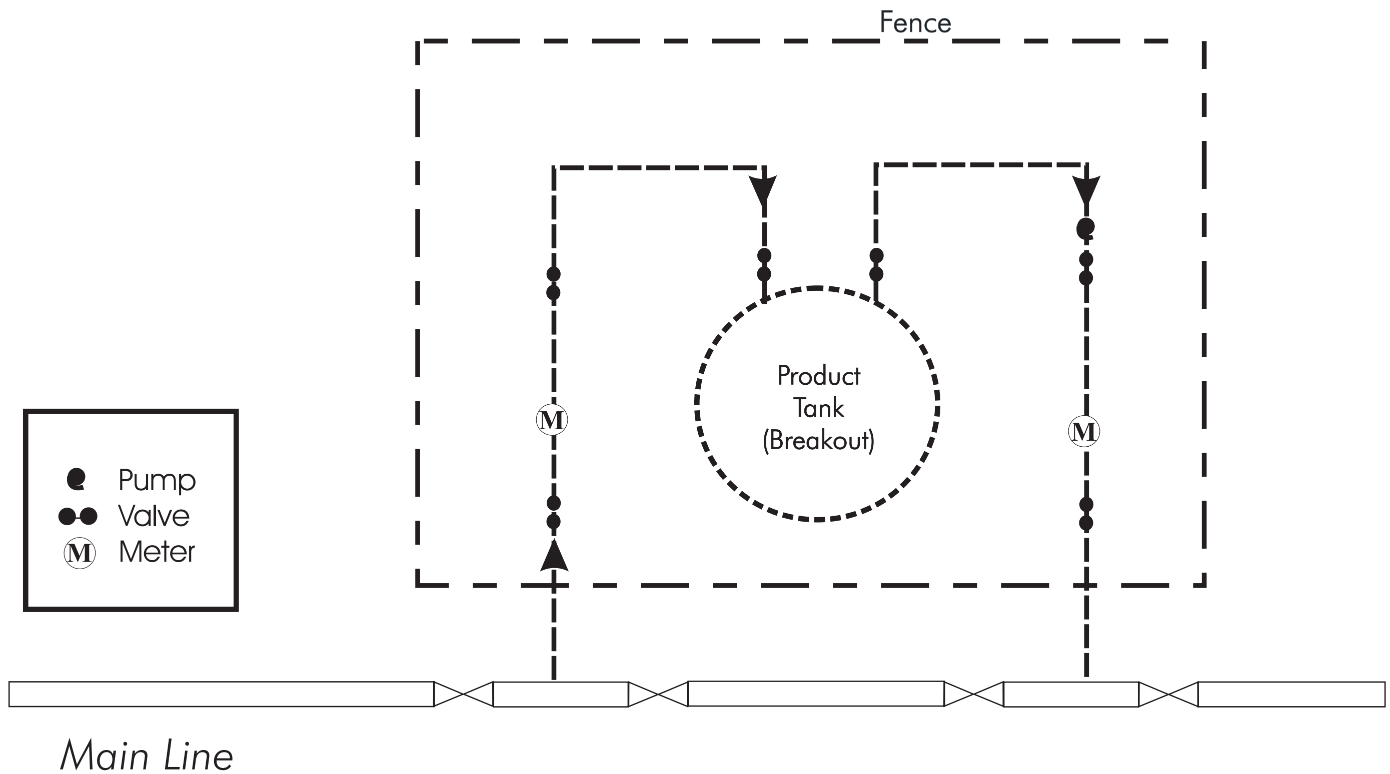
EPA and DOT are committed to working diligently towards achieving these goals. Until these long term goals are achieved, EPA and DOT shall respect the jurisdiction of its sister agency and encourage regulated facilities to fully comply with each agency's regulations.

For more information contact David Lopez, Director, Office of Emergency and Remedial Response Oil Program Center at (703) 603-8707 and Stacey Gerard, Director, Office of Policy, Regulations, and Training (202) 366-4595.

Attachments

cc: d-d-Timothy Fields Jr, Assistant Administrator, OSWER
Mike Shapiro, Deputy Assistant Administrator, OSWER
Jim Makris, Director, CEPPO, OSWER
Steve Herman, Assistant Administrator, OECA
Eric Schaeffer, Director, Office of Regulatory Enforcement, OECA
Earl Salo, Assistant General Counsel for Superfund, OGC
Bob Cianciarulo, Superfund/Oil Program Lead Region Coordinator
EPA Regional Removal Managers
Elaine Joost, Acting Chief Counsel, RSPA
Commandant, U.S. Coast Guard (G-MS, G-MO, G-MSO, G-MOC, G-MOR)

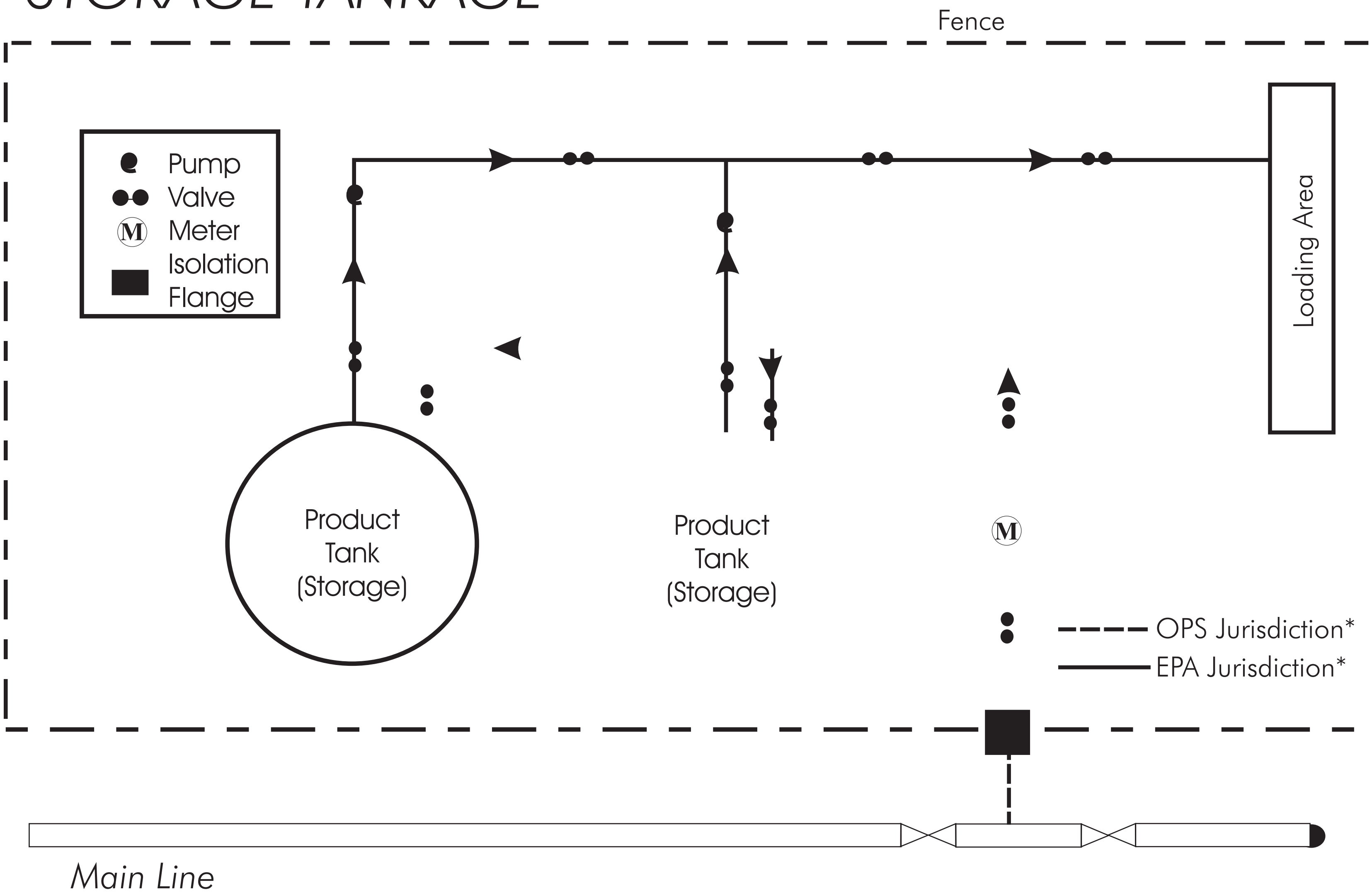
BREAKOUT TANKAGE



SOURCE: US EPA REV: 11/09/99

ATTACHMENT 1

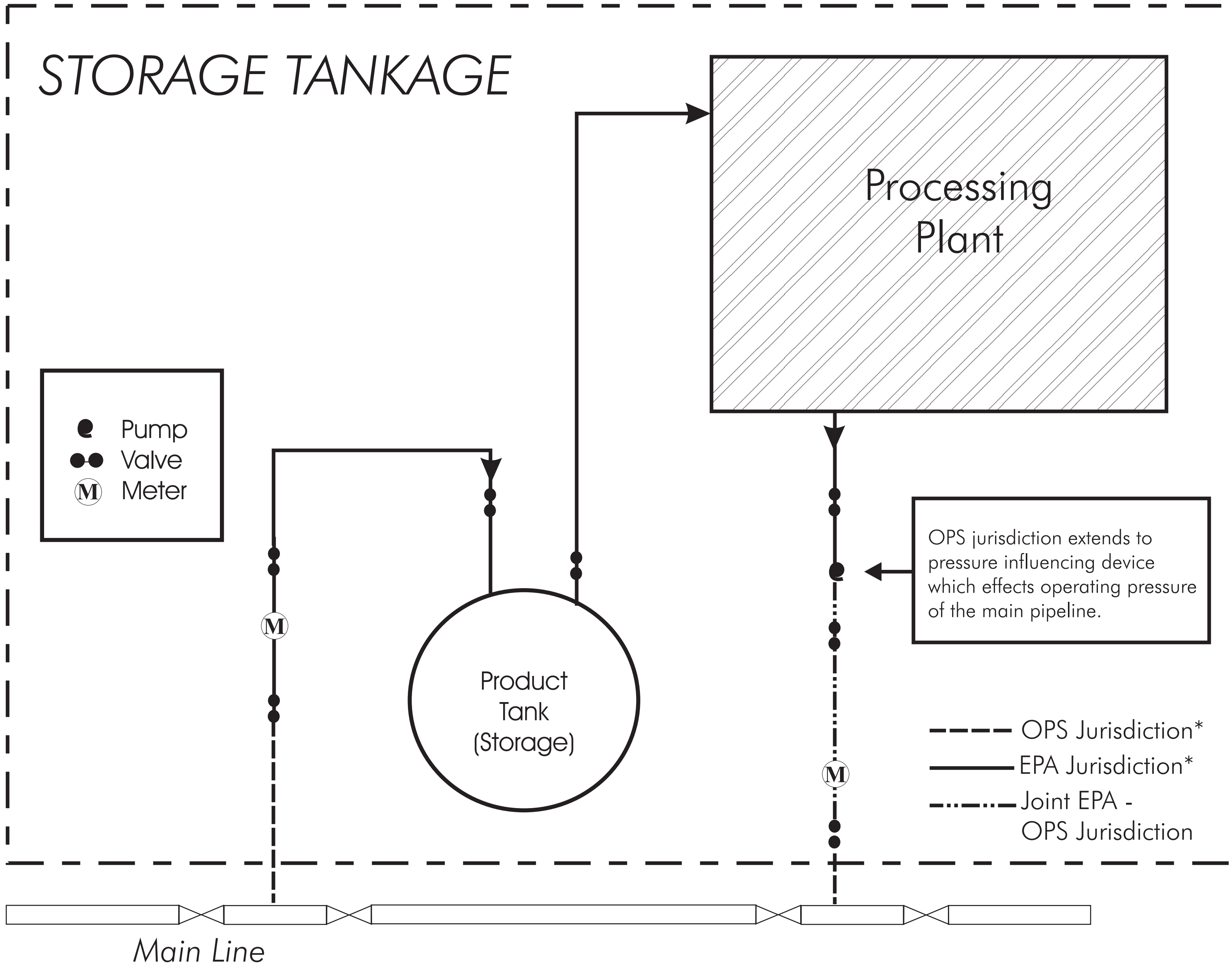
STORAGE TANKAGE



* This diagram does not identify the precise location where the change in jurisdiction occurs between EPA and OPS for the purpose of the Clean Water Act, Section 311(j) (33 USC 1321(j)). When the pipeline operator and the storage or breakout tank operator remain the same, the change in jurisdiction occurs at the first meter, valve, or isolation flange at or inside the facility property line. When the pipeline operator and the storage or breakout tank operator are not the same, the change in jurisdiction occurs at the change in operational responsibility or at the first meter, valve, or isolation flange at or inside the facility property line. In either of the above situations, the location of the property line should not solely be used to determine jurisdiction when operational activities (loading/offloading) extend beyond the property line.

SOURCE: US EPA REV: 11/09/99

ATTACHMENT 2



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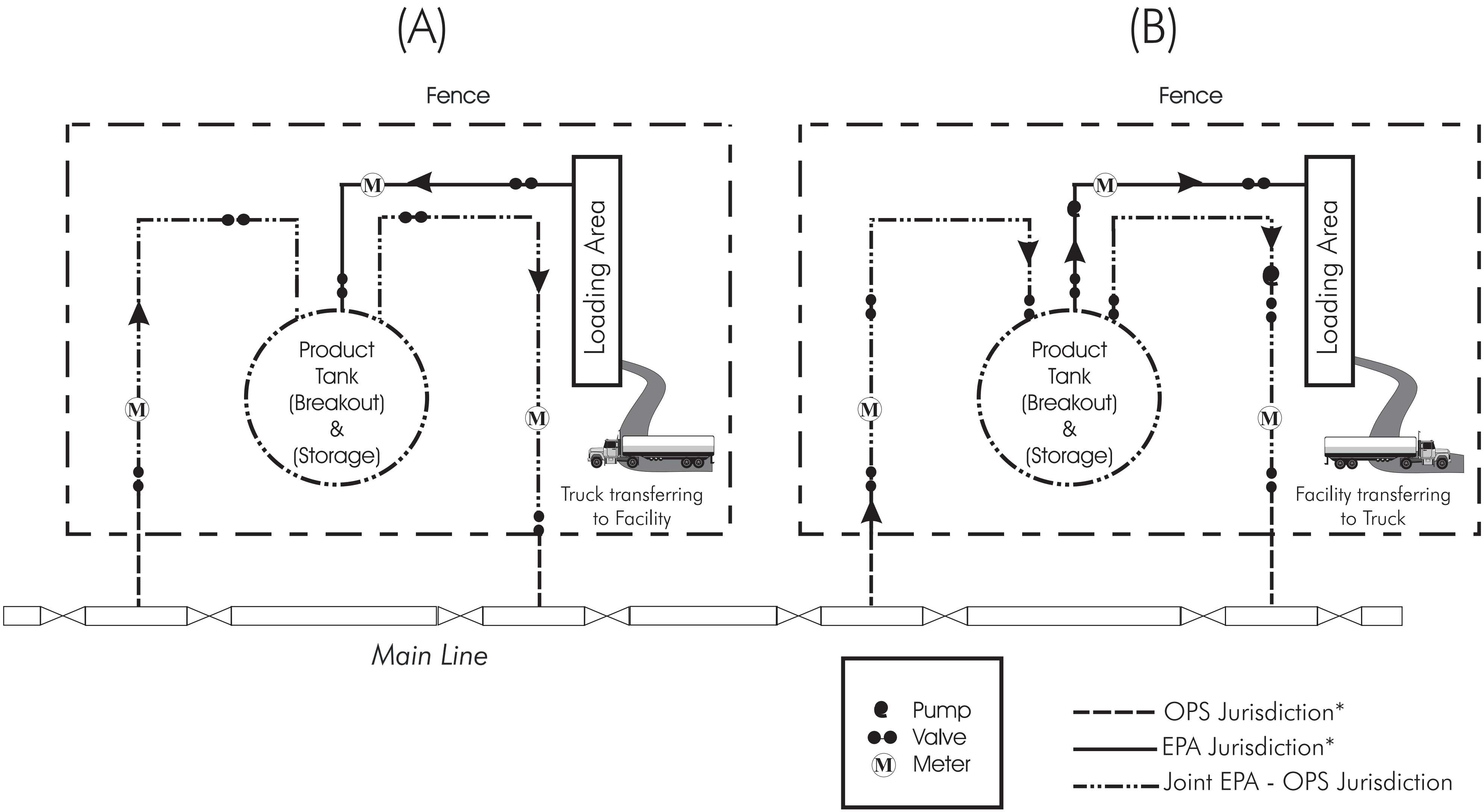
SOURCE: US EPA REV: 11/09/99

ATTACHMENT 3

BREAKOUT AND STORAGE TANKAGE - JOINT EPA - OPS JURISDICTION



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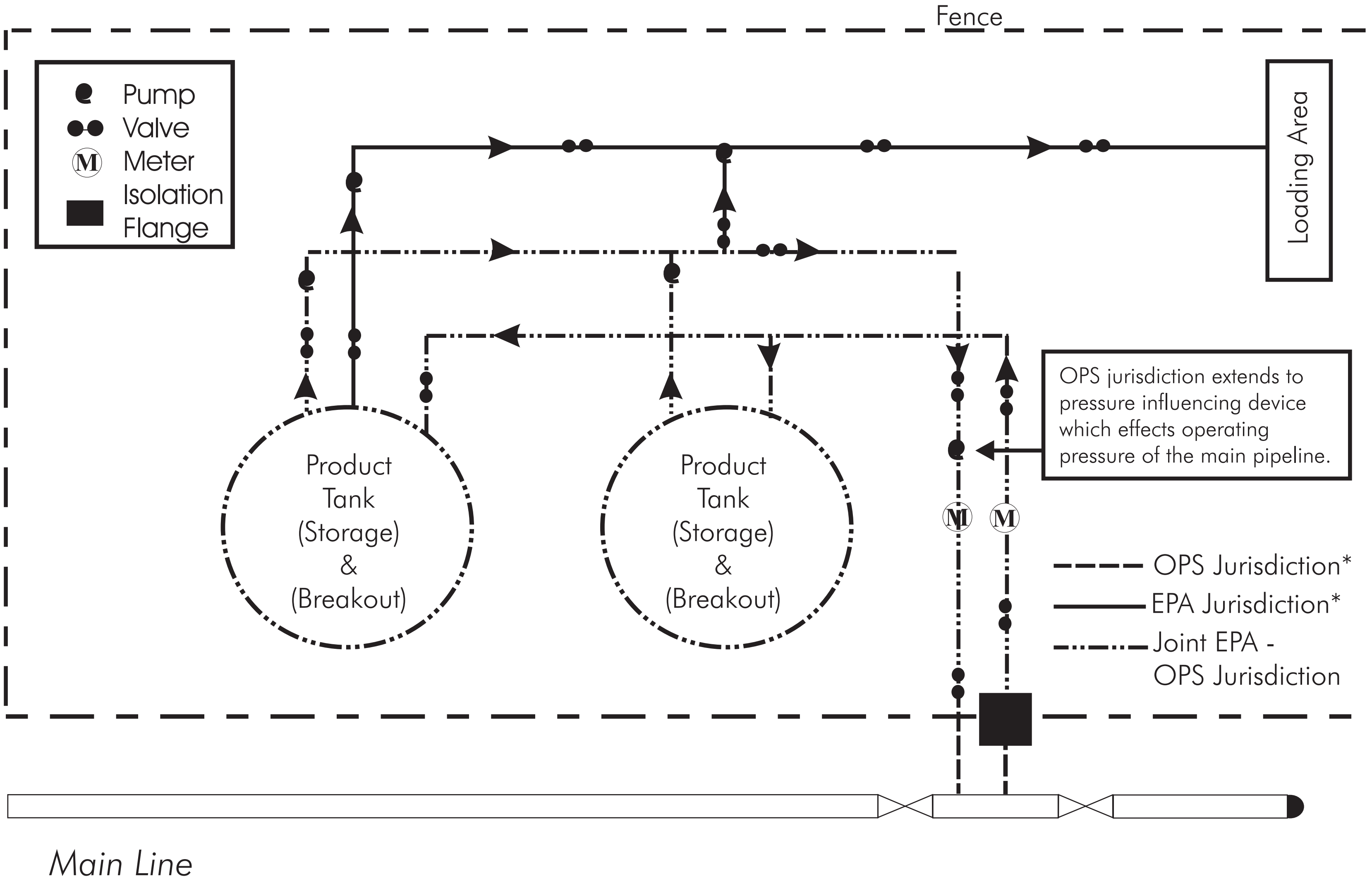
SOURCE: US EPA REV: 11/09/99

ATTACHMENT 4

STORAGE AND BREAKOUT TANKAGE - JOINT EPA - OPS JURISDICTION



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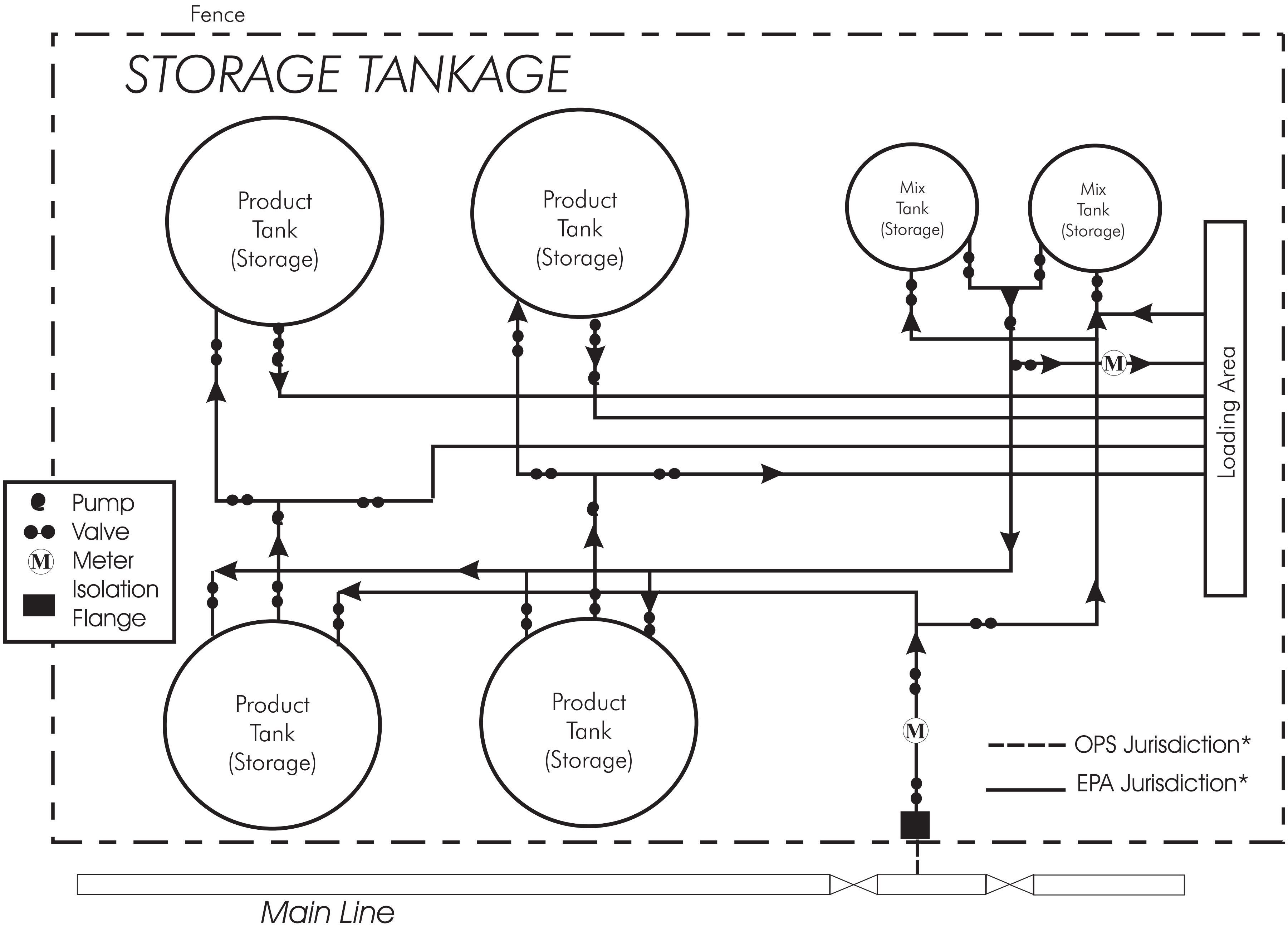
ATTACHMENT 5

SOURCE: US EPA REV: 11/09/99



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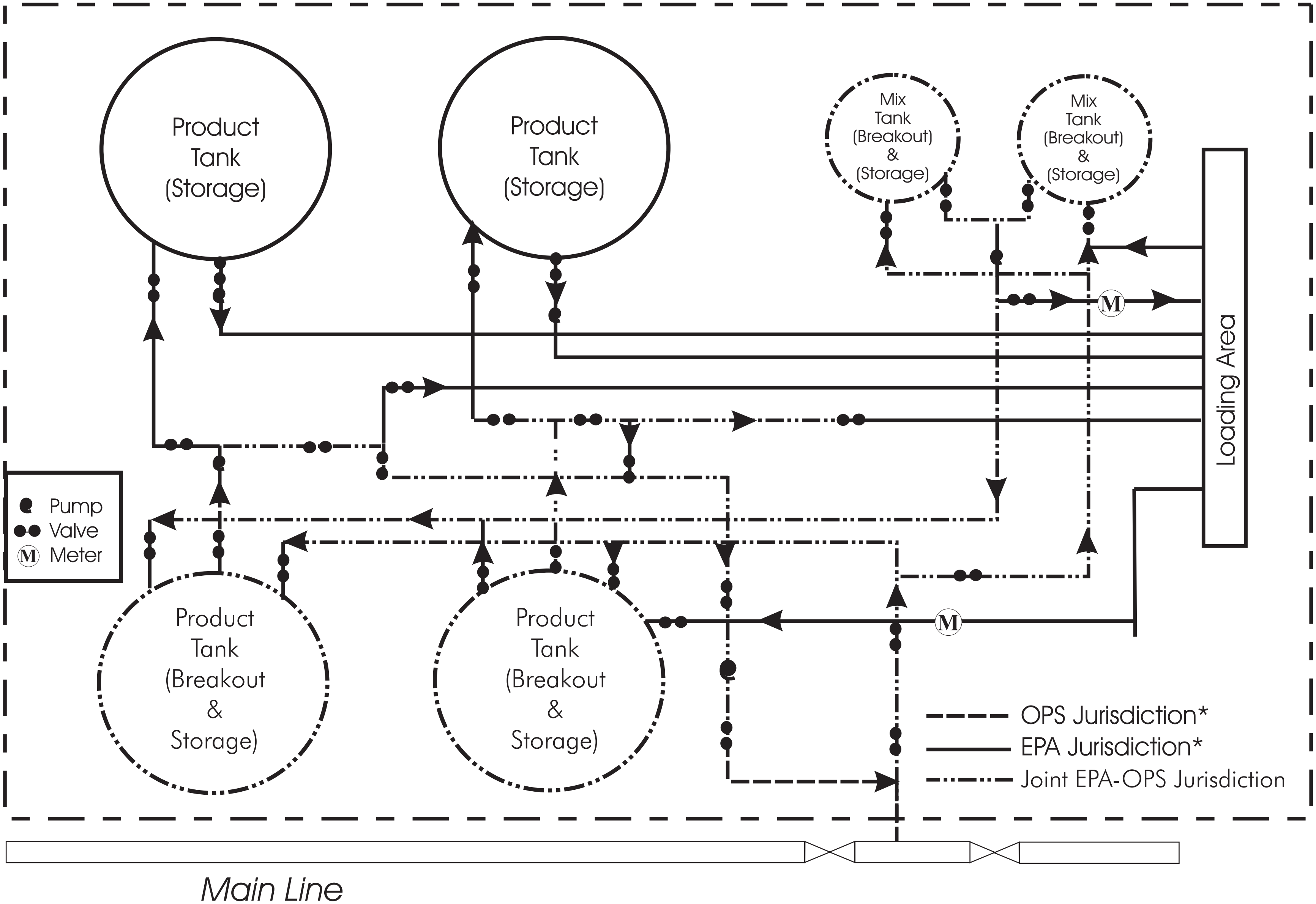
SOURCE: US EPA REV: 11/09/99

ATTACHMENT 6

STORAGE & BREAKOUT TANKAGE - JOINT EPA - OPS JURISDICTION



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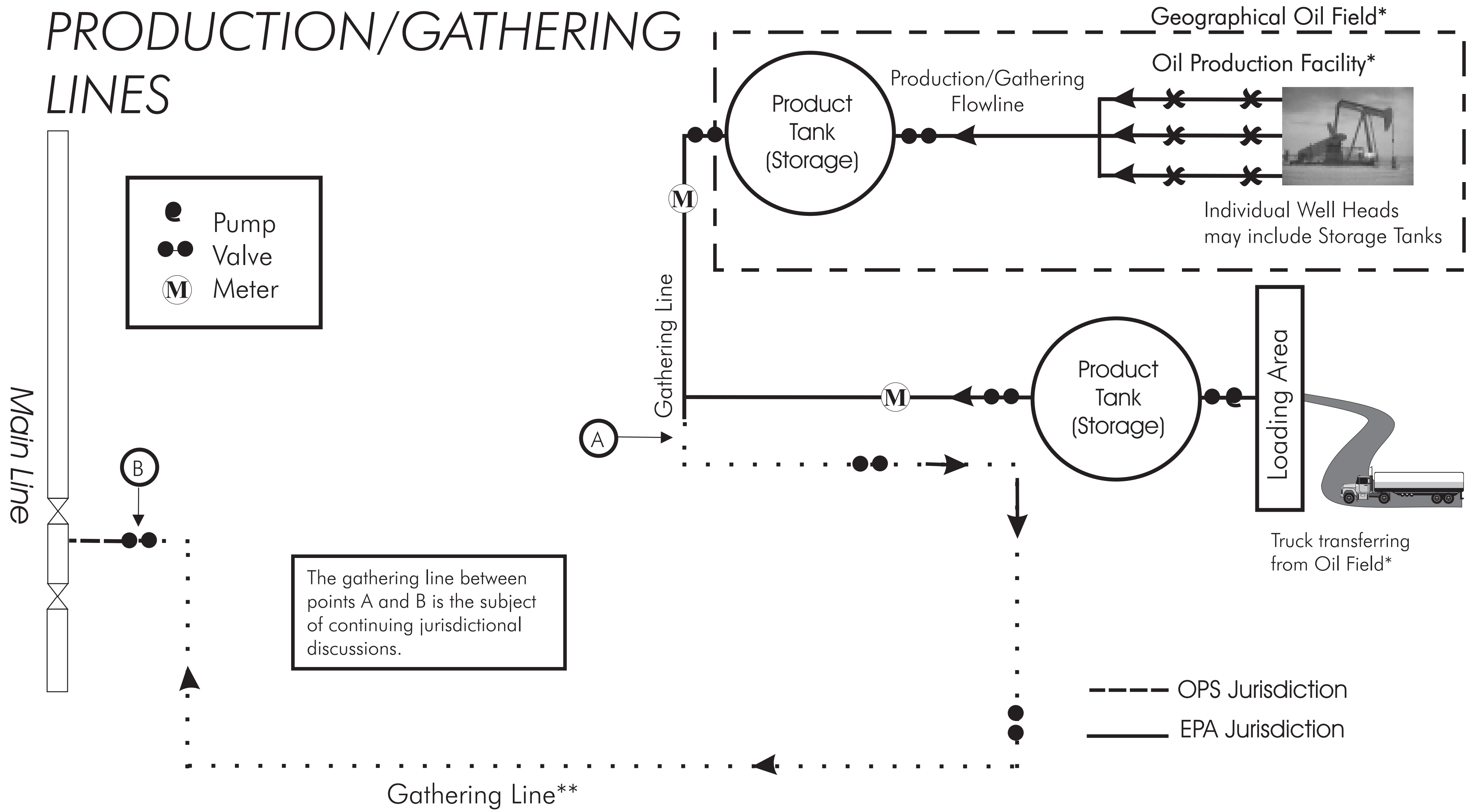
ATTACHMENT 7

SOURCE: US EPA REV: 11/09/99

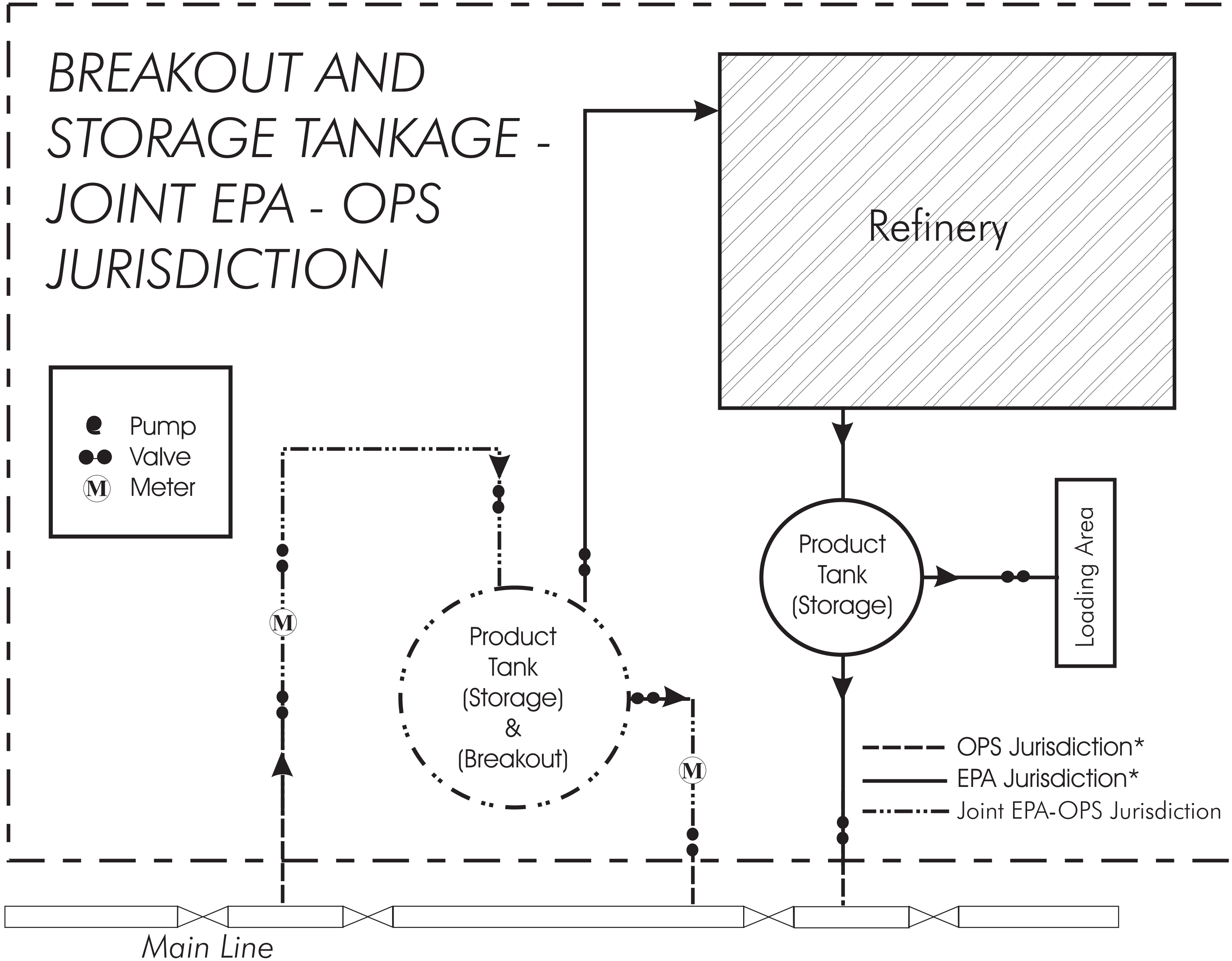
STORAGE TANKAGE ASSOCIATED WITH PRODUCTION/GATHERING LINES



*In 40 CFR 112.1 and 112.7 EPA regulates onshore oil production facilities including wells, flowlines, separation equipment, storage facilities, gathering lines and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator.

**In 49 CFR 195 OPS does not regulate gathering lines (8 5/8 inch or less nominal outside diameter) that transports petroleum from a production facility in rural areas. See 49 CFR 195.1 and 195.2. The gathering line is subject to OPS response planning requirements in 49 CFR 194.

SOURCE: US EPA REV: 12/06/99



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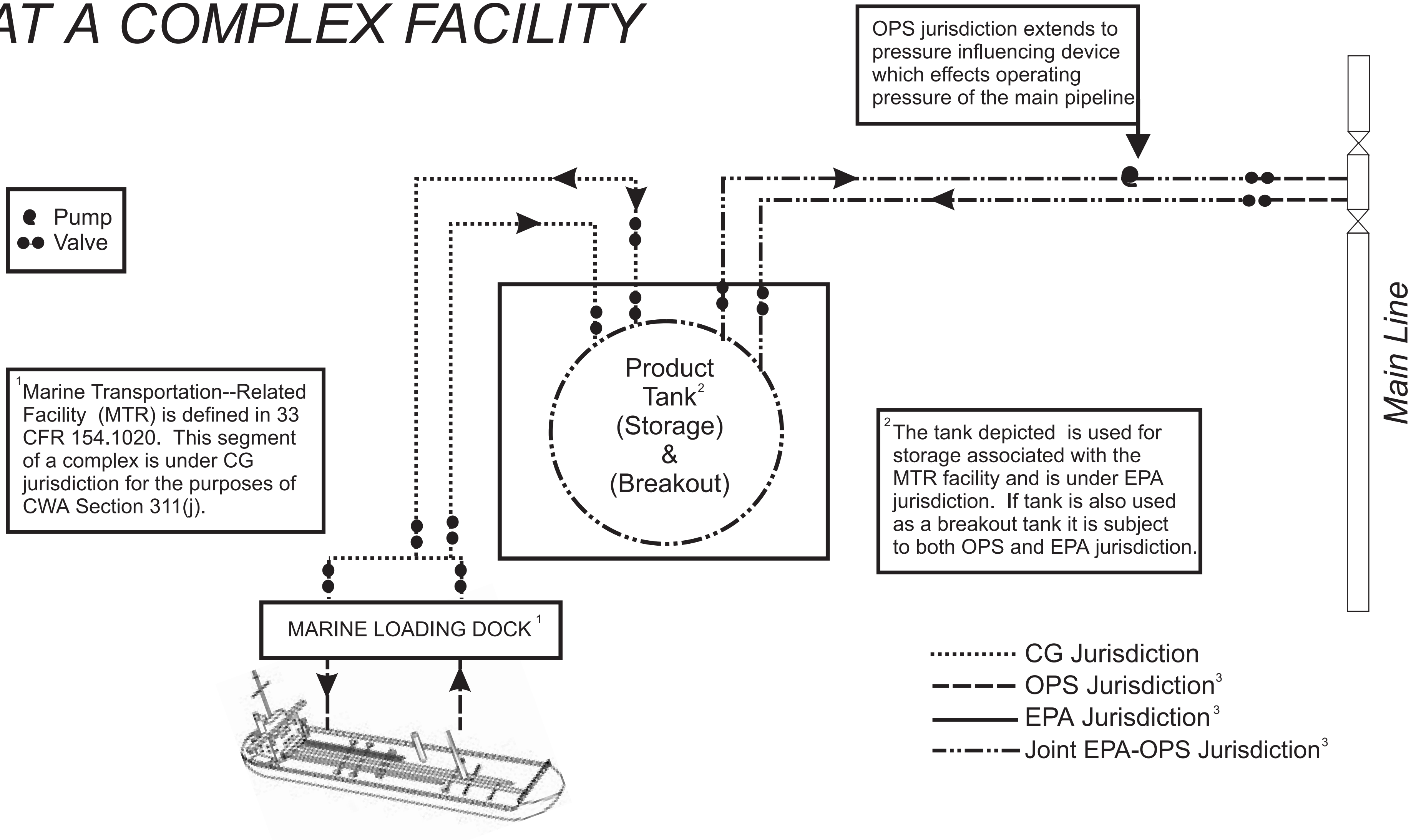
ATTACHMENT 9

SOURCE: US EPA REV: 11/09/99

EPA, OPS, AND COAST GUARD JURISDICTION AT A COMPLEX FACILITY



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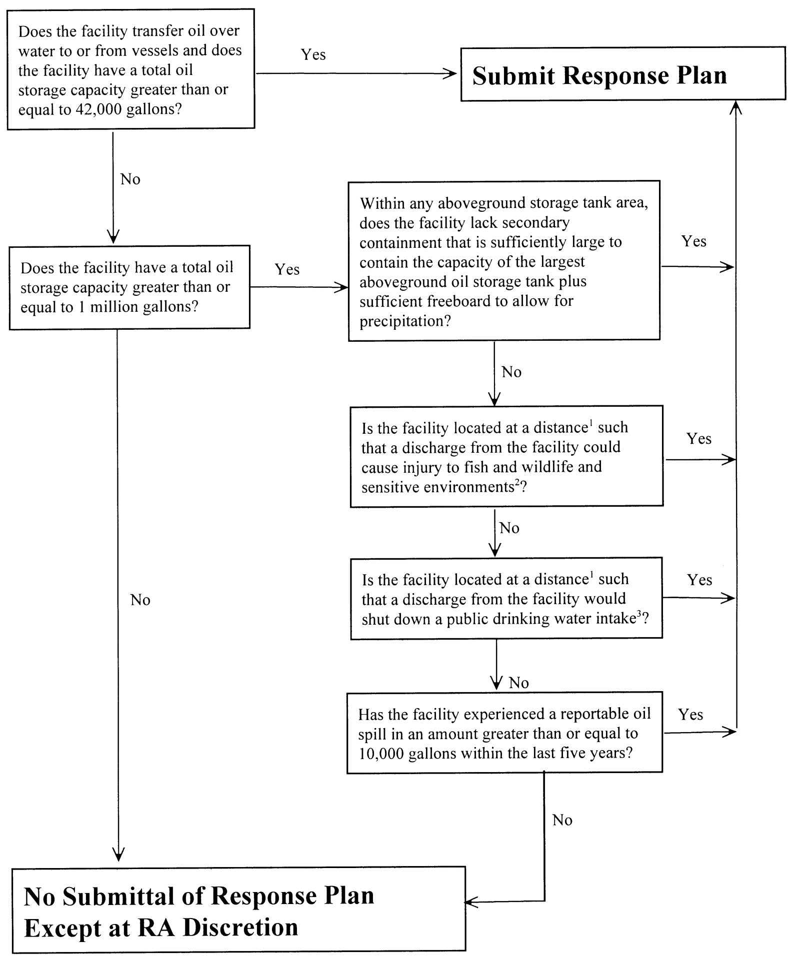
SOURCE: US EPA REV: 12/13/99

ATTACHMENTS TO APPENDIX C

Attachment C-I

Flowchart of Criteria for Substantial Harm



[1] Calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula.

[2] For further description of fish and wildlife and sensitive environments, see Appendices I,II, and III to DOC/NOAA's "Guidance for Facility and vessel response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.

[3] Public drinking water intakes are analogous to public water systems as described at CFR 143.2(c).

ATTACHMENT C–II—CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: __________________________
Facility Address: ________________________

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 oil 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 in Attachment C–III to this appendix or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

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 the appropriate formula in Attachment C-III to this appendix or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?

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 discharge 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.

____
Signature

____
Name (please type or print)

____
Title

____
Date

ATTACHMENT C-III—CALCULATION OF THE PLANNING DISTANCE

1.0 Introduction

1.1 The facility owner or operator must evaluate whether the facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments or disrupt operations at a public drinking water intake. To quantify that distance, EPA considered oil transport mechanisms over land and on still, tidal influence, and moving navigable waters. EPA has determined that the primary concern for calculation of a planning distance is the transport of oil in navigable waters during adverse weather conditions. Therefore, two formulas have been developed to determine distances for planning purposes from the point of discharge at the facility to the potential site of impact on moving and still waters, respectively. The formula for oil transport on moving navigable water is based on the velocity of the water body and the time interval for arrival of response resources. The still water formula accounts for the spread of discharged oil over the surface of the water. The method to determine oil transport on tidal influence areas is based on the type of oil discharged and the distance down current during ebb tide and up current during flood tide to the point of maximum tidal influence.

1.2 EPA's formulas were designed to be simple to use. However, facility owners or operators may calculate planning distances using more sophisticated formulas, which take into account broader scientific or engineering principles, or local conditions. Such comparable formulas may result in different planning distances than EPA's formulas. In the event that an alternative formula that is comparable to one contained in this appendix is used to evaluate the criterion in 40 CFR 112.20(f)(1)(ii)(B) or (f)(1)(ii)(C), the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula and shall notify the Regional Administrator in

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).