Suggested Procedure for Development of a Spill Prevention Control and Countermeasure Plan

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Suggested revisions are invited and should be submitted to the Director of Regulatory and Scientific Affairs, API, 1220 L Street, NW, Washington, DC 20005.

Page

Section 2B Onshore Oil Production Facilities

Section 2C – Onshore Oil Drilling and Workover Facilities

Section 2D – Offshore Oil Drilling, Production, or Workover Facilities

EXHIBITS

TEMPLATE

INTRODUCTION

The Federal Water Pollution Control Act Amendments of 1972 required the Administrator of the Environmental Protection Agency (EPA), with other federal, state, and interstate agencies, to enter into programs designed to prevent, reduce, or eliminate pollution of the navigable waters of the United States. On December 11, 1973, the EPA published the first Spill Prevention, Control and Countermeasure (SPCC) Plan regulation in *Title 40, Code of Federal Regulations, Part 112 (40 CFR Part 112).* The purpose of this rulemaking was to establish procedures, methods, and equipment to prevent and contain discharges of oil from non-transportation-related onshore and offshore facilities; thus preventing pollution of navigable waters of the United States. The rule became effective January 10, 1974, and has been revised several times over the past thirty-six years.

In 2002, EPA finalized changes proposed from 1991 to 1997. API and other litigants subsequently filed suit over certain provisions. In March 2004, most of the issues raised in the litigation SPCC-related suits were settled. This revision includes results of the litigation in which API was involved (Exhibit A – Settlement Agreements). On June 19, 2009, EPA published in the *Federal Register* an SPCC compliance date extension for all existing facilities until **November 10, 2010**. Facilities must amend or prepare, and implement SPCC Plans by the compliance date in accordance with revisions to the SPCC rule promulgated since 2002. The latest SPCC amendments and definition of "navigable waters" were promulgated on December 2006 (71 FR 77266, December 26, 2006), December 2008 (73 FR 74236, December 5, 2008), November 2009 (74 FR 58784, November 13, 2009) and November 2008 (73 FR 71941, November 26, 2008), respectively. For more information, on EPA SPCC guidance, visit EPA Website (www.epa.gov/oilspill).

This is the fifth revision of the American Petroleum Institute's (API's) Bulletin D-16. Its sole purpose is to assist the petroleum industry in understanding the SPCC regulation and to offer guidance for developing SPCC Plans wherever they are needed. Included is a template for developing SPCC Plans (i.e., onshore excluding production; onshore oil production, oil drilling or workover; or offshore oil drilling, production or workover) in accordance with the regulation and guidance, along with instruction and clarification for completing each section of the template.

The development of this Bulletin was commissioned by API and performed by O'Brien's Response Management Inc. (planning@obriensrm.com).

Suggested Procedure for Development of a Spill Prevention Control and Countermeasure (SPCC) Plan

GUIDANCE

API BULLETIN D-16
FIFTH EDITION, APRIL 2011

American Petroleum Institute

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Purpose of SPCC Rule

The regulation is divided into three subparts, which detail the requirements for a *Spill Prevention, Control, and Countermeasure (SPCC) Plan*. Subpart A (*§* 112.1 to *§*112.7*)* contains an applicability section, definitions, and general requirements for all facilities that are SPCC-regulated. Subpart B (§112.8 to §112.11) sets out the SPCC requirements for petroleum oil and non-petroleum oils other than animal fats and vegetable oils. Subpart C (§112.12) sets out the SPCC Plan requirements for animal fats, oils, and greases, fish and marine mammal oils; and oils of vegetable origin, including oils from seeds, nuts, fruits, and kernels. The SPCC Plan is the foundation of EPA's oil spill prevention program.

Timeline for Compliance

On August 3, 2010, EPA published a proposed rule (75 FR 45572) to amend SPCC compliance dates as follows. Note that this citation is to a proposed rule and not a final agency action. Users of this guidance are urged to verify this information and whether the agency has issued a final action.

- If your fixed, mobile, or portable drilling, production, or workover facility that is offshore or is offshore with onshore components, was in operation on or before August 16, 2002, you must amend your Plan as necessary, maintain your plan, and amend as necessary to comply with the July 17, 2002, revised rule and subsequent amendments and certify the plan on or before November 10, 2010.
    - If your offshore facility, or offshore facility with onshore components, became operational after August 16, 2002, a Plan must be prepared and implemented on or before November 10, 2010.
    - If your offshore facility, or offshore facility with onshore components, became operational after November 10, 2010, a Plan must be prepared and implemented before beginning operations.
- If your onshore facility requiring you to have and submit a Facility Response Plan (FRP) was in operation on or before August 16, 2002, you must amend your Plan as necessary, maintain your plan, and amend as necessary to comply with the July 17, 2002, revised rule and subsequent amendments and certify the plan on or before November 10, 2010.
    - If your onshore facility requiring an FRP became operational after August 16, 2002, a Plan must be prepared and implemented on or before November 10, 2010.
    - If your onshore facility requiring an FRP became operational after November 10, 2010, a Plan must be prepared and implemented before beginning operations.
- If your facility, or mobile or portable facility, *excluding drilling, production, and workover facilities, including mobile and portable facilities, that are offshore or are offshore with onshore components, and excluding onshore facilities required to have and submit Facility Response Plans,* was in operation on or before August 16, 2002, you must amend your Plan as necessary, maintain your plan, and amend as necessary to comply with the July 17, 2002, revised rule and subsequent amendments and certify the plan on or before November 10, 2011.
    - If your facility, or mobile or portable facility, *excluding drilling, production, and workover facilities, including mobile and portable facilities, that are offshore or are offshore with onshore components, and excluding onshore facilities required to have and submit Facility Response Plans,* became operational after August 16, 2002, a Plan must be prepared and implemented on or before November 10, 2011.
    - If your facility, or mobile or portable facility, *excluding drilling, production, and workover facilities, including mobile and portable facilities, that are offshore or are offshore with onshore components, and excluding onshore facilities required to*

have and submit Facility Response Plans, became operational after November 10, 2011, a Plan must be prepared and implemented before beginning operations.

- Acquired facilities are covered existing facilities and must be in compliance with the same requirements based on their operational status as described above.

- Mobile drilling or workover facilities without SPCC Plans are out of compliance and should take all necessary steps to get into compliance as soon as possible. If it is necessary to amend an existing Plan to comply with the revised rule, then it must be amended on or before November 10, 2010.

Extensions for Implementing the SPCC Plan

If an owner/operator cannot comply with the time requirement due to non-availability of qualified personnel or delay in construction or equipment delivery beyond his control, he/she may request an extension of time by a letter request to the EPA Regional Administrator (§112.3(f)(2)). The letter must include:

- A full explanation of the cause for any such delay and the specific aspects of the SPCC Plan affected by the delay;

- A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and,

- 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.

The Regional Administrator may request a copy of the SPCC Plan or any additional information at any time.

The D-16 Bulletin provides the owner/operator of a regulated facility with the basic information to prepare, and guidance to assist users with the implementation of, an SPCC Plan (Acronyms used in the Bulletin are listed in Exhibit B). The first step is to determine applicability (see GENERAL APPLICABILITY, Figure 1). If applicable, instructions on utilizing the Bulletin's templates are outlined under GUIDELINES FOR PLAN PREPARATION AND IMPLEMENTATION.) These guidelines supplement details or clarify information required to prepare an SPCC Plan. The suggested sections attached in the template will assist the user in developing a Plan. All facilities will use Section 1 and the appropriate Section 2 based on facility type (see PREPARATION AND IMPLEMENTATION, Figure 2). The template may be utilized and/or copied as necessary in the preparation of either single or multiple facility SPCC Plans. The use of the template will simplify preparation and provide uniformity in completed Plans. The appendices are provided to assist the user with supporting documentation (i.e. site diagram, notifications, inspection logs, etc.) Individual state requirements are not part of the guidance and template. Users of the Bulletin should consult the state agency(ies) associated with oil spill prevention for state requirements (See Exhibit A.)

Applicability

The applicability of this rule to a facility can be determined by following the flow chart provided in Figure 1. The flow chart summarizes the three-step decision process. Additional guidance and clarification is provided below:

STEP 1: Determine if your facility (defined in §112.2) is a non-transportation related onshore or offshore facility.

An SPCC Plan must be prepared by the owner or operator of onshore and offshore non-transportation related facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, and/or consuming oil and oil products who meet the additional requirements under Steps 2 and 3.

- "**Facility** means any mobile or fixed, onshore or offshore building, property, parcel, lease, 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 gathering, oil processing, oil transfer, oil distribution, and oil 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. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities. Only this definition governs whether a facility is subject to this part" (40 *CFR* 112.2 Definitions). In the preamble of the 2002 rule, the table showing a summary of the major revisions states that "The revised rule clarifies that a facility may be as small as a piece of equipment, for example, a tank, or as large as a military base." The additional clarification of the definition of facility may impact how SPCC applies. "However, an owner or operator may not make facility determinations indiscriminately and in such a manner as to simply avoid applicability of the rule (for example, the division of one facility into separate facilities with one oil storage container located at each facility where all storage containers are located side-by-side or close to each other, and are used for the same purpose). For further information on the definition of facility" (73 FR 74245, December 5, 2008).

  > "In the July 2002 SPCC amendments, the Agency promulgated definitions of "facility" and "production facility." These definitions, which appear in 40 *CFR* 112.2, apply "for the purposes of" part 112. The Agency has been asked which of these definitions governs the term "facility" as it is used in 40 *CFR* 112.20(f)(1) when applied to oil production facilities. 40 *CFR* 112.20(f)(1) sets criteria for determining whether a "*facility* could, because of its location, reasonably be expected to cause substantial harm to the environment" (emphasis added). It is the Agency's view that, because, among other things, that section consistently uses the term "facility," not "production facility," it is the definition of "facility" in 40 *CFR* 112.2 that governs the meaning of "facility" as it is used in 40 *CFR* 112.20(f)(1), regardless of the specific type of facility at issue (69 FR 29730, May 25, 2004)."

- ***Non-Transportation-Related Facility*** – Non-transportation related facilities include, but are not limited to, bulk oil storage, oil refining and processing, oil production lease facilities, mobile or portable drilling or workover rigs operating in a fixed mode, portable fueling facilities, and gas processing plants. They exclude facilities which are regulated by the Department of Transportation (DOT) and the Minerals Management Service (MMS) as defined in the Memorandum of Understanding (MOU, see Exhibit A) with these agencies.

Applicability (Cont'd)

Non-Transportation-Related Onshore and Offshore Facilities – Onshore facilities mean any facility of any kind located in, on, or under any land within the United States, other than submerged lands. Offshore facilities mean those facilities that are located in, on, or under any navigable waters of the United States, which includes but is not limited to rivers, lakes, bays, estuaries, territorial waters, or marshes where some or all of the facility is over or in water. Non-transportation-related facilities are those engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to their location could reasonably be expected to discharge oil in harmful quantities as defined in 40 *CFR* § 110, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone. The revised rule extends the geographic boundaries to include 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. The 1977 Clean Water Act (CWA) amendments extended the geographic scope of EPA's authority under CWA Section 311. "A presidential proclamation of December 17, 1988 (No. 5928, 54 FR 777, January 9, 1989) extended the territorial seas of the United States to 12 nautical miles… However, the proclamation provided that nothing therein "extends or otherwise alters existing federal or state law or any jurisdiction… (67 FR 47073, July 17, 2002)." The EPA has jurisdiction of non-transportation-related offshore facilities located landward of the coast line and the Minerals Management Service regulates facilities on the Outer Continental Shelf. The coast line is defined as "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 (67 FR 47064, July 17, 2002)."

An SPCC Plan may include a single facility (e.g., a single tank or tank battery) or may include multiple facilities. A facility also may be subdivided and an SPCC Plan prepared for each division. "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" (Appendix D (§1.3) to Part 112). Aggregating tank capacities are not required, or appropriate in all cases and each plan preparer should evaluate both methods. However, an owner or operator may not make a determination to subdivide operations into multiple smaller facilities simply to avoid the applicability of the SPCC rule.

STEP 2: Determine if your facility meets minimum storage volume.

If your facility meets the basic description provided in Step 1, you will then determine if your facility meets the minimum storage volume. The facility is potentially regulated if it has aboveground storage capacity greater than 1,320 gallons, which includes vaulted tanks, or an completely buried (underground storage) capacity of greater than 42,000 gallons. (Note: Some states are more stringent and may be retaining the 660-gallon minimum (See specific state regulatory references in Exhibit A). However, the following exceptions apply when determining your total storage:

- Only containers of oil (inclusive of all bulk storage containers, oil filled electrical equipment, operating equipment and manufacturing equipment, see definition of oil in §112.2) with a capacity of 55 gallons or greater are to be considered when calculating total capacity relative to the 1,320-gallon aboveground storage threshold or the 42,000-gallon completely buried storage threshold.

Applicability (Cont'd)

- A permanently closed container, see definition of oil in §112.2) is excluded from the rule, and therefore, is excluded from the calculation of the facility storage capacity.

- Any completely buried tanks (defined in §112.2) subject to all technical requirements of 40 *CFR* Part 280 or 281 (Federal or State Underground Storage Tank regulations) is excluded from the rule, and therefore, is excluded from the calculation of the completely buried (underground) storage capacity. An exemption also applies to underground tanks deferred under 40 *CFR* Part 280 that supply emergency diesel generators at a nuclear power generation facility licensed at the Nuclear Regulatory Commission (NRC) and subject to NRC design and quality criteria.

- Hot-mix asphalt (blend of asphalt cement and aggregate material referred to as HMA) or hot-mix asphalt container(s).

- Any single-family residence heating oil container (either aboveground or completely buried).

- Any pesticide application equipment or related mix containers.

- Intra-facility gathering lines subject to 49 *CFR* Part 192 or 195.

- Any "motive power container" which is used to power the movement of a motor vehicle or ancillary onboard oil-filled operational equipment.

- Any facility or part thereof used exclusively for wastewater treatment (defined in §112.2) is excluded from the rule, and therefore, is excluded from the calculation of the minimum storage capacity. Wastewater conveyance and treatment used to meet any SPCC requirements (i.e., containment, facility drainage) would not be counted toward the facility volume threshold. Produced water operations do not qualify for the wastewater exemptions nor any wastewater treatment system which collects and stores oil in a separate compartment.

- A dry gas production facility is a facility which produces natural gas from a well (or wells) and does not also produce condensate or crude oil that can be drawn off the tanks, containers or other production equipment at the facility.

    - 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". All other oil containers (e.g. compressor day tank) apply to SPCC applicability. See Exhibit A.2 (69 FR 29729, May 25, 2004).

    - In verifying that a particular gas facility is not an "oil product, oil recovery, or oil recycling facility," 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) would be appropriate supporting documentation.

STEP 3: Determine if your facility could reasonably be expected to discharge oil to navigable waters or adjoining shorelines (defined in §112.2).

Applicability (Cont'd)

The July 17, 2002 revisions to the definition of ''navigable waters'' were vacated by order of the United States District Court for the District of Columbia (D.D.C.) in *American Petroleum Institute* v. *Johnson*, 571 F.Supp.2d 165 (D.D.C. 2008). The court decision restored the regulatory definition of ''navigable waters'' promulgated by EPA in 1973.

Navigable waters (40 *CFR* Part 112.2 Definitions) of the United States means "navigable waters" as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92–500), and tributaries of such waters;

(2) Interstate waters [removed reference to interstate wetlands];

(3) Intrastate lakes, rivers, and streams [removed reference to intermittent streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds] which are utilized by interstate travelers for recreational or other purposes; and

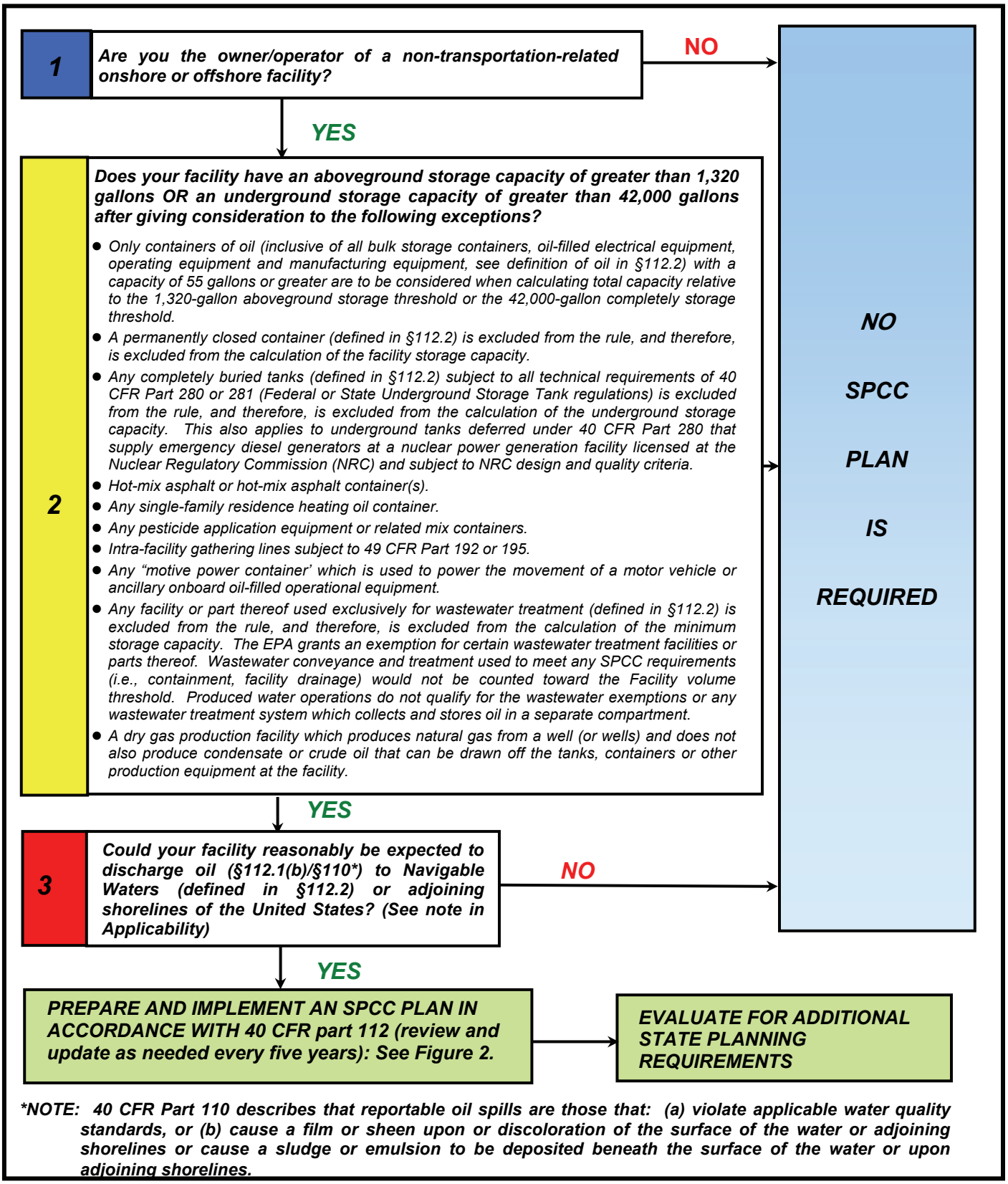
(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

If your facility meets the basic description provided in Step 1 and the minimum storage requirements detailed in Step 2, you will then determine if your facility could be reasonably expected to discharge to navigable waters or adjoining shorelines. In order to determine which facilities will require SPCC Plans, the owner or operator must make a determination of those facilities from which an oil spill could "reasonably be expected" to discharge to navigable waters or adjoining shorelines. The presence of manmade structures may not be considered in determining the likelihood of the release to "navigable waters" (§112.1(d)(1)(i)). Obviously, if a facility is far removed from navigable waters, the chance for a discharge at that location getting into the navigable waters may be very remote. Among the factors the owner or operator should consider in making such determinations are:

- Prior spill history;
- Location (proximity to navigable waters);
- Potential size of discharge;
- Type of soil and terrain; and
- Frequency and amount of rainfall

The phrase "reasonably be expected" means that the expectation is logical, rational, sensible, justifiable, credible, plausible, etc.

FIGURE 1 GENERAL APPLICABILITY



*NOTE: 40 CFR Part 110 describes that 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.

GUIDANCE FOR SELECTING TEMPLATE SPCC PLAN SECTIONS

The layout of the template SPCC Plan is provided as follows:

Section 1 – General Information

- This section is required for all facilities except Tier I and is intended to capture information that is both administrative and technical in nature. Tier I Qualified Facilities use EPA Template (Appendix F to the rule).

Section 2 – Facility Information

- This section is subdivided into four (4) different sections that will be selected by the user based on the type of facility (see Figure 2). Sections that are not applicable should not be included in the Plan. These sections are described below:

  - Section 2A -- Onshore Facilities (Excluding Production)
  - Section 2B -- Onshore Oil Production Facilities (See note below)
  - Section 2C -- Onshore Oil Drilling and Workover Facilities
  - Section 2D -- Offshore Oil Drilling, Production, or Workover Facilities

  A completed Plan utilizing the attached suggested sections will consist of three parts:

  (1) Part I, General Information
  (2) Part II, Facility Information (one section from the selection of 2A, 2B, 2C, or 2D)
  (3) Appendices - This document has four (4) Appendices A-D: Notification, Logs, Facility Diagram and Oil Spill Contingency Plan). However, these appendices may be removed if not applicable to the facility, and/or more appendices may be inserted, based on the level of detail desired by the operator.

  Note: "**Production Facility** means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility 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 (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether structures, piping, or equipment are subject to a specific section of this part" (40 *CFR* 112.2 – Definitions).

  In the Response to Comments for the December 5, 2008 final rule, "[t]he Agency believes that the changes to the definitions of 'facility' and 'production facility' will not discourage the use of multi-facility Plans because the Agency does not require the aggregation of individual facility capacities covered under a multi-facility Plan. To provide further clarity, EPA has removed the limiting term 'single geographic' from the production facility definition. This change together with the other modifications finalized in this action, make it clear that an owner or operator is not compelled, by the definition of production facility, to aggregate separate facilities located in a ''single geographic'' oil production field into a single facility. If an owner or operator has several distinct operations in one oil field, he is not required to consolidate these operations into a single facility. On the other hand, the owner or operator does have the flexibility to consolidate these operations if he so chooses" (73 FR 74271, December 5, 2008).

Section 2 -- Facility Information (Cont'd)

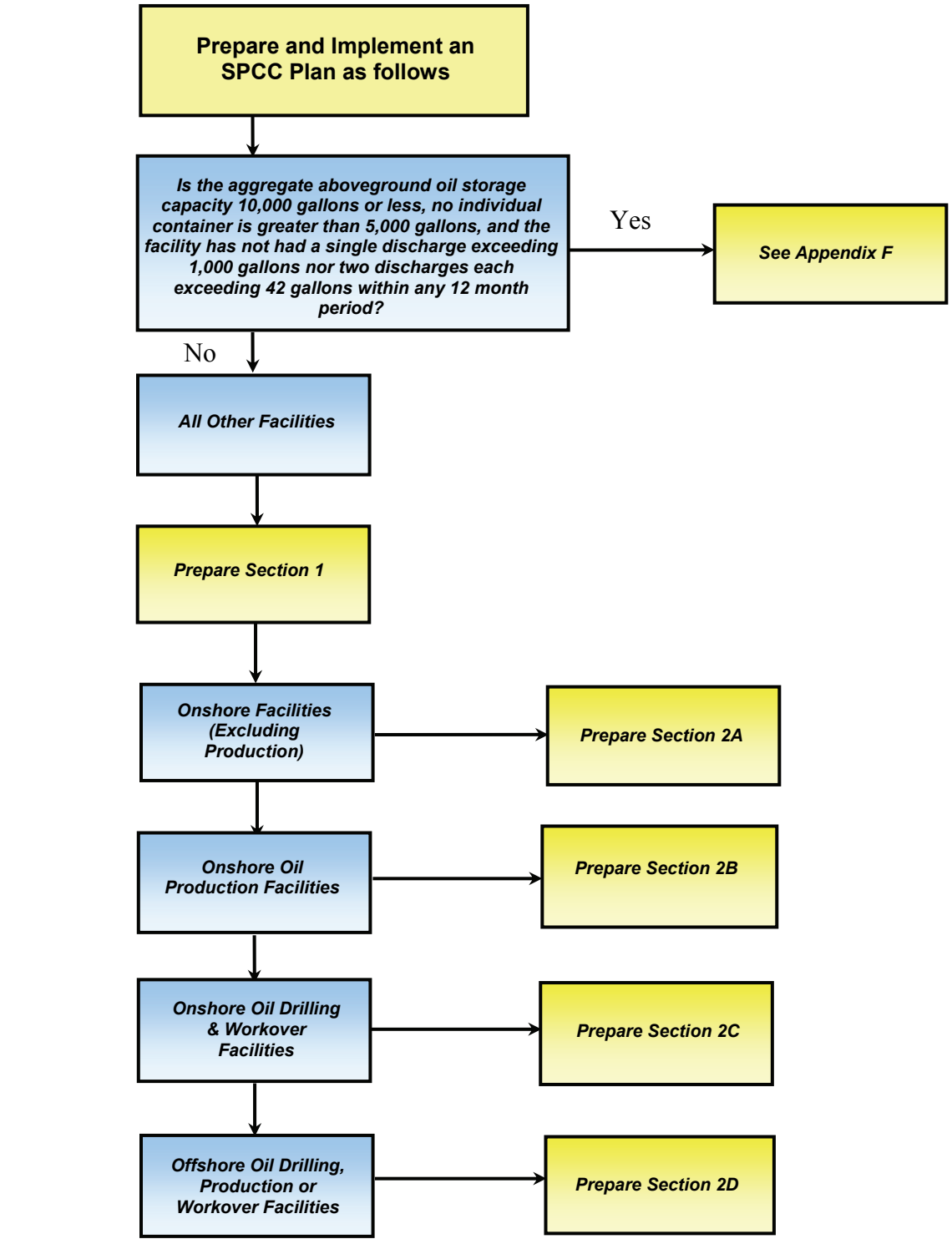
EPA also notes in the Response to Comments that "Nothing in the definition would preclude an owner or operator from combining elements of a production facility into one SPCC Plan with an identification of the wells to which that Plan applies." (67 FR 47078, July, 17, 2002)

For OPA 90 Facility Response Planning (FRP) purposes, the FRP definition of facility guides the requirements, not the SPCC definition of production facility. Therefore, production facilities do not have to be aggregated (refer to Exhibit A, SPCC Settlement Agreements (Attachment D)).

> In the July 2002 SPCC amendments, the Agency promulgated definitions of "facility" and "production facility." These definitions, which appears in 40 *CFR* §112.2, apply "for the purposes of Part 112." The Agency has been asked which of these definitions governs the term "facility" as it is used in 40 *CFR* §112.20(f)(1) when applied to oil production facilities.
>
> 40 *CFR* §112.20(f)(1) sets criteria for determining whether a "facility could, because of its location, reasonably be expected to cause substantial harm to the environment…" (emphasis added). It is the Agency's view that, because, among other things, that section consistently uses the term "facility" not "production facility", it is the definition of "facility" in 40 *CFR* §112.2 that governs the meaning of the "facility" as it is used in 40 *CFR* §112.20(f)(1), regardless of the specific type of facility at issue.

Tier II Qualified Facilities are restricted on elements allowed by plans not certified by a Professional Engineer (PE). First, they may not include alternate methods which provide environmental equivalence pursuant to §112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a PE, as provided in paragraph (b)(4) of this section. Second, they may not include any determinations that secondary containment is impracticable and provisions in lieu of secondary containment pursuant to §112.7(d), unless each such determination and alternate measure has been reviewed and certified in writing by a PE, as provided in paragraph (b)(4) of this section. Third, they may not include any alternative procedures for skimming produced water containers in lieu of sized secondary containment pursuant to §112.9(c)(6), unless they have been reviewed and certified in writing by a PE, as provided in paragraph (b)(4) of §112.9.

FIGURE 2
SELECTING TEMPLATE SPCC PLAN SECTIONS



Note: Prepare appendices as appropriate. Your Plan may include one (1) or multiple of these Sections.

GUIDANCE, INSTRUCTION, CLARIFICATION USING THE TEMPLATE SPCC PLAN

- **Coversheet**

  Enter facility name and physical location. If the operator and owner are the same, the company name and address need be entered only once.

- **Table of Contents**

  As illustrated in Figure 2, each Plan will have Section 1 - General Operation. Under Section 2, only applicable parts should be used. Onshore (i.e., Bulk Storage and Distribution Terminal, Lube Blending and Packaging Plant, Refinery, Chemical Plant, Retail Station) facilities will use Section 2A. Onshore Oil Production facilities will use Section 2B. Onshore Oil Drilling and Workover facilities will use Section 2C. Offshore Oil Drilling, Production or Workover facilities will use Section 2D. Appendices should be used, as appropriate, based on facility requirements.

- **Log of Plan Review and Amendments**

  This log is to be utilized for documentation of any review of, or amendment to, the SPCC Plan. It will be utilized to document the five-year management review, any interim reviews or non-technical amendments by the manager or other plan reviewer and any Professional Engineer review of technical amendments. Further instruction on the utilization of this form is provided on the log. For definition of Manager, see Guide Section 1.1, Management Approval.

  Facility Changes Requiring Plan Revision

  - The Plan must be revised when there are changes in the facility's design, construction, operation, or maintenance that materially affect the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such changes are technical amendments and must be prepared within six (6) months, and implemented as soon as possible, but not later than six (6) months following preparation of the amendment. It is the responsibility of the facility to determine, and confirm with the regulatory authority as necessary, what constitutes a technical amendment. Changes requiring revision may include, but are not limited to:

    - Commission or decommission of containers.
    - Replacement, reconstruction, or movement of containers (see guidance on movement of containers in Section 2A.1, Containers).
    - Reconstruction, replacement, or installation of piping systems.
    - Construction or demolition that might alter secondary containment structures and/or drainage systems.

- Changes of product (e.g., from light to heavy products; corrosive to non-corrosive; non-corrosive to corrosive, etc.). This would not include similar product changes.
- Changes in service (e.g., changes in service conditions of temperature, pressure, etc.)
- Addition/deletion of standard operating or maintenance procedures related to discharge prevention measures.
- Non-technical amendments (e.g. phone numbers and/or contacts) are administrative changes prepared with six months of the facility change and implemented within six months following preparation of any amendment.

Five-Year Review

- At least once each five (5) years the facility shall complete a review and evaluation of the SPCC Plan and make amendments within six (6) months of the review. This review does not require a PE to do the review and does not require PE certification unless there is a technical amendment. This review will include, at a minimum, a review of the following:

  - Applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event from the facility if such technology has been field-proven at the time of the review.
  - Accuracy of the SPCC Plan as compared to the current facility operation and SPCC regulation.

- **Regulatory Cross-Reference**

  The SPCC planning template provided in the Bulletin does not follow the exact layout of the regulation; accordingly a regulatory cross-reference is required. The cross-references provided here represent one for each type of facility – and only one cross-reference is required for each facility. You should select the appropriate page for your facility, discard or delete the non-applicable pages, and verify that the right column of the cross-reference accurately reflects the location of the data in the plan you have developed. (Note: See Figure 2 for clarification on type of facility -- Onshore, Onshore Production, Onshore Drilling or Workover, or Offshore).

TEMPLATE SECTION 1 – GENERAL INFORMATION

1.1 Management Approval

This page is to be utilized as documentation for Management Approval that the Plan will be implemented as described and for designation of the "Designated Person Accountable for Oil Spill Prevention at the Facility". Multiple signature blocks are provided for subsequent change of Management or change in the Designated Person.

The owner/operator should make his own determination as to the level of management required to provide this approval signature. However, as a form of general guidance, an excerpt from the National Pollutant Discharge Elimination System (NPDES) program signatories to permit applications and reports (40 *CFR* § 122.22) is provided for reference:

> *"The 'Manager' is the manager who is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures."*

1.2 Certifications

The SPCC Plan requires a number of certifications, which relate to the rule and associated industry standards. The owner/operator or professional engineer attests to these requirements as outlined in Sections 1.2A-2E as appropriate for the facility.

1.2A Professional Engineer Certification

The Professional Engineer (PE) certifying the SPCC Plan is attesting to the best of his knowledge and belief that:

- He is familiar with the requirements of 40 *CFR* part 112;
- He or his agent has visited and examined the facility;
- He has verified that the plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 *CFR* part 112;
- He has verified that the procedures for the required inspection and testing have been established; and,
- He has verified that the Plan is adequate for the facility.

Guidance on the certification as it relates to several areas is provided below:

Industry Standards – The SPCC Plan must be prepared in accordance with good engineering practice, including consideration of applicable industry standards. There are a significant number of potentially applicable industry standards that could be reviewed for certification of the plan. It is not practicable for the PE to be familiar with every standard. A non-inclusive list of standards that may be relevant to this rule is provided in Exhibit C. The decision in every case as to the applicability of any industry standard will be one for the PE. In the 2008 preamble, EPA states, "that use of a particular standard is voluntary; however, when a standard (or any part of a standard) is incorporated into a facility's SPCC Plan, then adherence to that standard (or part of a standard) is mandatory for implementation of the SPCC Plan (73 FR 74265, December 5, 2008). Additional guidance from the EPA's preamble to the 2002 SPCC rule states "If there is neither a specific and objective industry standard nor a specific and objective manufacturer's instruction that applies, then it is the duty of the P.E…to establish such specific and objective standards for the facility…" (67 FR 47057, July 17, 2002).

Agent – The PE may designate an Agent to conduct the review of the facility. Although the PE should make his own determination as to the viability of his Agent, guidance can be found within

the various professional engineering state board rules and regulations. Additionally, the National Society of Professional Engineers (NSPE) Code of Ethics for Engineers, Section II, Part 2b, provides that "Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control" (Reprinted by permission of the National Society of Professional Engineers, www.nspe.org).

Other Requirements – The PE is certifying that he is familiar with the requirements of the rule which also includes conformance with other requirements -- including State regulations applicable to SPCC. If this applies to the facility, document conformance with these other regulations in Section 1.11.

1.2B Professional Engineer Certification (with Produced Water Attestation*)

The Professional Engineer (PE) certifying the SPCC Plan is attesting to the best of his knowledge and belief that:

- He is familiar with the requirements of 40 *CFR* part 112 and have verified that this Plan has been prepared in accordance with the requirements of this Part.
- He or his agent have visited and examined the facility(s).
- He has verified that this Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and with the requirements of 40 *CFR* part 112.
- He has verified that the procedures for required inspection and testing have been established as described in Section 2.
- He has verified that the Plan is adequate for the facility.
- He has verified that for produced water container(s) subject to §112.9(c)(6), the procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

***Produced Water Attestation: This certification is only necessary for oil production facilities that seek to exclude produced water tanks from the requirement of sized secondary containment under the conditions noted below.**

General Containment for Produced Water Containers In Lieu of Sized Containment - In addition to the attestations required in Section 1.2A, the PE must verify that procedures designed to remove free-phase oil from the surface of produced water containers have been established for facilities to use general containment in lieu of sized containment. In the December 2008 amendments, EPA acknowledged that "good general secondary containment practices can be successfully implemented in lieu of sized secondary containment. If such practices are designed by a PE in consideration of site-specific factors and in combination with additional oil spill prevention practices including inspections, procedures to minimize the amount of free-phase oil in the container, and procedures to remove/remediate discharged oil. In the November 2009 amendments, the Agency further acknowledged that "skimming operations at produced water containers may operate similarly to separation operations at flow-through process vessels when free phase oil is being removed or recovered from them on a regular basis. Therefore, including the additional compliance measures for produced water containers with procedures to minimize the amount of free-phase oil, including remediation and

inspections, is appropriate and consistent with alternative compliance options provided for other bulk storage containers (*i.e.,* flow-through process vessels) which separate oil and water mixtures" (74 FR 58796-58797, November 13, 2009).

1.2C Tier II Qualified Facility Certification

The owner/operator, using the self-certification criteria, certifies that:

- He is familiar with the requirements of 40 *CFR* part 112.
- He has visited and examined the facility(s). Note: An agent is not allowed for self-certification.
- He has verified that this Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of 40 *CFR* part 112.
- He has verified that the procedures for required inspections and testing have been established.
- He will fully implement the Plan.
- The Facility meets the Tier II qualification criteria in 40 CFR 112.3(g)(2).
- The Plan does not deviate from any requirement of 40 *CFR* part 112 as allowed by §112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any association piping, except as provided in 40 *CFR* 112.6(b)(3).
- The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

The owner or operator of a Tier II Qualified Facility may self-certify his or facility's Plan, provided the facility is one that:

(1) Has an aggregate aboveground storage capacity of 10,000 gallons or less; and

(2) Has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons or not two discharges exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 *CFR* part 112 if the facility has been in operation for less than three years.

1.2D Professional Engineer Certification of Portions of a Qualified Facility's Self-Certified Plan (Tier II only)

The owner or operator of a Tier II Qualified Facility may not self-certify alternative measures for environmental equivalence (deviations) under §112.7(a)(2) or impracticability (secondary containment) under §112.7(d). The alternate measure must be reviewed and certified by a Professional Engineer that:

- He is familiar with the requirements of 40 *CFR* part 112.

- He or his agent have visited and examined the facility(s).
- He has verified that this alternate method of environmental equivalence in accordance with §112.7 (a)(2) and/or determination of impracticability and alternative measures in accordance with §112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards and with the requirements of 40 CFR part 112.

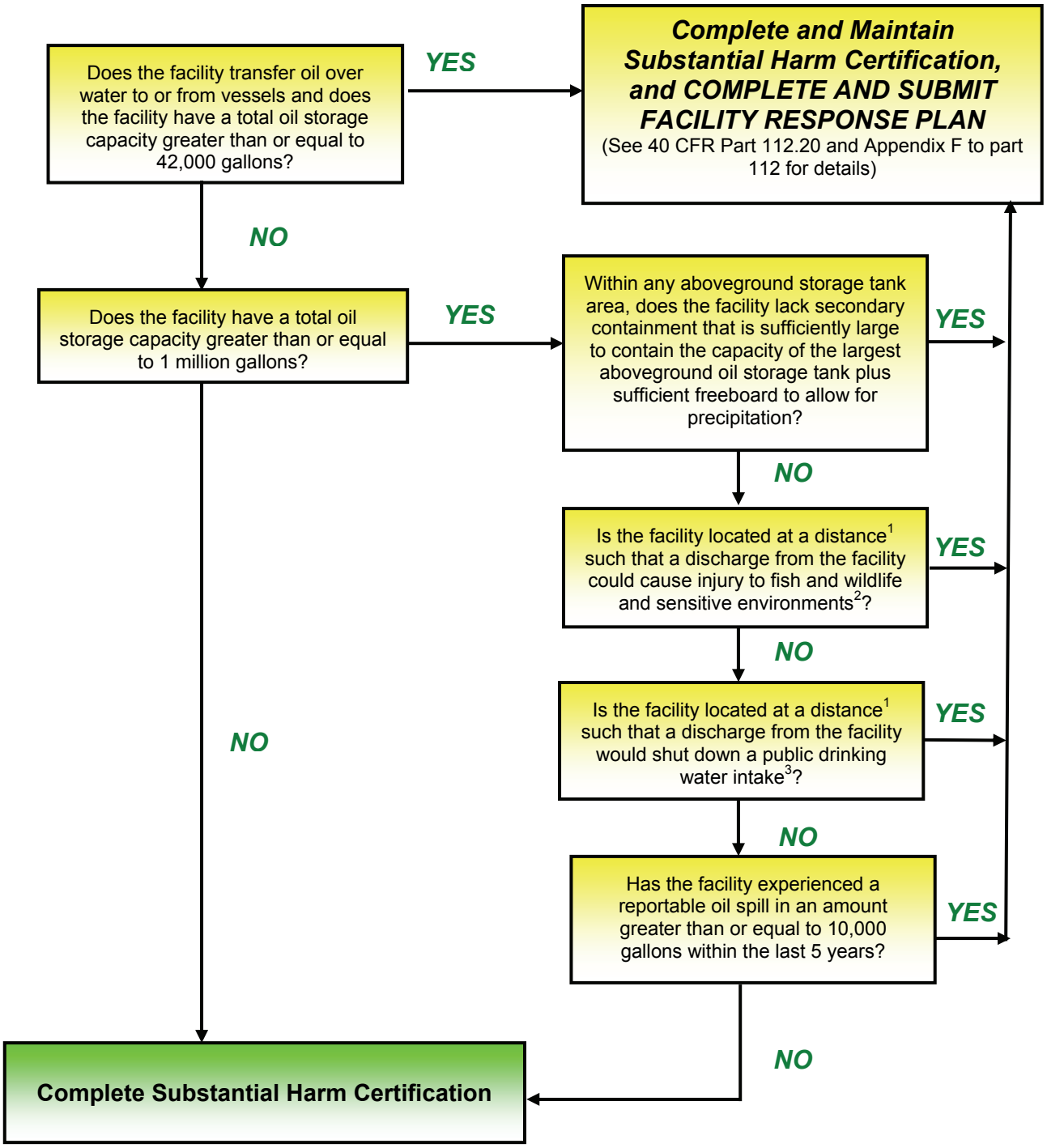
1.2E Tier II Qualified Facility Technical Amendment

- If the plan must be recertified, the owner or operator must certify in accordance with 1.2C or 1.2D for PE-certified portions.

1.3 Substantial Harm Certification

All owners or operators of non-transportation-related facilities must complete a Substantial Harm Determination and maintain this certification form. If a facility meets the criteria, the owner or operator must prepare a Facility Response Plan prior to beginning operation. See Appendix F to 40 *CFR* §112.20 for further information. The total oil volume includes all bulk storage containers, flow-through process vessels, oil-filled operational equipment, and partially and/or completely buried tanks greater than or equal to 55 gallons and not otherwise exempted by §112.1(d).

FIGURE 3
FLOWCHART OF APPLICABILITY CRITERIA FOR SUBSTANTIAL HARM



1 – Calculated using the appropriate formula in Attachment C-III of 40 *CFR* Part 112 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 40 *CFR* §143.2(c).

1.4 Contact List and Phone Numbers

The contact list and phone number references should include, at a minimum, 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. This list can be provided on the form in Appendix A (see Template) of the Plan or, if applicable, by reference to the notification references provided in the Facility Response Plan (§112.20).

1.5 Notification Data Sheet

The Notification Data Sheet is the documentation form to be utilized for data gathering and communicating to regulatory and assistance agencies. The sample form provided in Appendix A of the Plan can be utilized or, if applicable, reference can be made to a similar form in the Facility Response Plan (§112.20).

The National Response Center is charged with receiving reports of discharges of oil and hazardous substances and is the federal point of contact for reporting oil and chemical spills. This notification form is based on a similar form used by the National Response Center (NRC).

In the event a facility has a reportable spill of 1,000 gallons or experienced two (2) reportable spills (as referenced in §112.1(b) of greater than 42 gallons each within a 12-month period an SPCC report must also be submitted to the Regional Administrator within 60 days (see Appendix B for Sample – Submittal of Information to Regional Administrator for Qualified Discharges(s)).

1.6 Personnel, Training, and Discharge Procedures

Training – You must 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. "Oil-handling personnel", although not specifically defined by the regulation, are those employees engaged in the operation and maintenance of oil storage containers (i.e., oil transfers, inspections). This training is to occur prior to the assignment of oil-handling job responsibilities to the employee. Additional training may be required if the employee takes on new responsibilities or if the facility has a change that may affect the employee's responsibilities.

Training of contract personnel or contractor employees is not specifically addressed in the SPCC regulations or in the preamble language. Contractors are responsible for training their own employees. Owner/operators should consider reviewing contractor safety programs and performance to assure that the contract employees are properly trained to be able to perform their work.

Training should include a review of the following:

- Operation and maintenance of equipment to prevent discharges
- Discharge protocols
- Applicable pollution control laws, rules, and regulations
- General facility operations
- Contents of SPCC Plan

1.6 Personnel, Training, and Discharge Procedures (Cont'd)

Briefing – Annual briefings highlighting and describing known discharges or failures, malfunctioning components, and any recently developed precautionary measures must be provided to all oil-handling personnel.

Briefings should include a review of the following:

- SPCC Plan changes
- Recent/historical discharges, failures or malfunctioning components of the facility
- Any recently developed precautionary measures

1.7 Facility Layout and Diagram

Each Plan must include a description of the physical layout of the facility, including a facility diagram. The facility diagram must mark the location and contents of all fixed containers 55 gallons or more of oil, and the storage area where mobile or portable containers are located. An estimate of number, the anticipated contents, and the capacities of mobile or portable containers (55 gallons or more) stored may be included in the diagram or may be provided on a separate sheet or log if those contents change on a frequent basis. "EPA believes that the revision to the facility diagram requirements for mobile or portable containers will simplify the process for developing a facility diagram by allowing for a general description of both the area of the facility where they are located and of their contents, rather than representing each container individually" (73 FR 74246).

The diagram must also mark the location and contents of completely buried tanks, including those regulated under Parts 280/281 and so otherwise exempted from SPCC requirements. The facility diagram must also include all transfer stations and connecting pipes (e.g. pipeline receiving and shipping lines, lines feeding truck/rail/marine loading/unloading facilities), including intra-facility gathering lines that are otherwise exempted from the requirements of 40 *CFR* part 112 under §112.1(d)(11). In cases where the facility has an abundance of piping containing oil (e.g., refineries, other processing facilities), further reference to additional drawings may be stated in the Plan, or a schematic representation may be used. Refineries or other large processing facilities may elect to show only units and not identify all individual process vessels within the unit. "The Agency interprets the requirements at §112.7(a)(3) to allow an owner or operator of a facility to represent such systems in a less detailed manner on the facility diagram in the SPCC Plan, as long as the information is contained in more detailed diagrams of the systems or is contained in some other form and such information is maintained elsewhere at the facility and this location is referenced in the SPCC Plan." (73 FR 74247, December 5, 2008).

1.8 Prevention, Response and Cleanup

The discussion of prevention measures should include containment, drainage control, diversionary systems, consideration of soil conditions, or any other discharge prevention measure(s) in-place. Countermeasures are discovery, response, and cleanup activities. The countermeasures could include the frequency of operational rounds by personnel, automated systems in-place, and initial response actions. The discussion of disposal should include methods employed to dispose of recovered materials and demonstrate appropriate planning to be able to dispose of recovered materials.

1.9 Impracticability

In circumstances where secondary containment or diversionary structures (§112.7(c)) are impracticable, the owner or operator must clearly explain why such measures are not practicable and; the reasons for such a determination and; 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 the owner or operator has submitted a Facility Response Plan under §112.20; provide a contingency plan and a written commitment of manpower and equipment to expeditiously control and remove a discharge of oil.

The discussion of the impracticability determination should be included in this Section of the Plan. The contingency plan and the written commitment of manpower should also be developed and included with the Plan (Appendix D). Exhibit D provides minimum development requirements for a contingency plan (40 *CFR* part 109). A Facility Response Plan will also suffice for the contingency planning requirements of this section.

If the impracticability determination applies to bulk storage containers (see definition in § 112.2) not previously covered by integrity testing, these containers must have periodic integrity testing of the containers and periodic integrity/leak testing of valves and piping associated with the bulk storage containers, as determined by the owner/operator.

> "The Agency did not intend with the language emphasized above 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.) As discussed above, this conclusion is different than that reached with respect to purely economic considerations in determining whether to meet other rule requirements subject to deviation under §112.7(a)(2). Under that section, as stated above, facilities may choose environmentally equivalent approaches (selected in accordance with good engineering practices) for any reason, including because they are cheaper" (69 FR 29729, May 25, 2004).

In addition, with respect to enumerating considerations for determinations of impracticability, the Agency did not intend to foreclose the consideration of other pertinent factors.

1.10 Deviations to Rule

The SPCC rule allows owners or operators to substitute procedures or other measures that provide equivalent environmental protection for provisions (see §112.7(a)(2)). As provided in the preamble (67 FR 47094) of the rule, "A deviation may be used whenever an owner or operator can explain his reasons for nonconformance, and provide equivalent environmental protection. Possible rationales for a deviation include when the owner or operator can 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." Note that this deviation provision, on the basis of equivalent environmental protection, <u>does not</u> apply to secondary containment.

1.11 Conformance with Other Requirements

You should provide an explanation in this section of your facility's conformance with more stringent State or local rules, regulation, or guidance. Examples may include, but are not limited to, more stringent applicability thresholds, secondary containment or inspection/testing requirements. EPA does not preempt State rules and defers to State rules, regulations, and guidelines that are more stringent. You should note that there may be several state programs and regulations applicable to your situation – AST, UST, Spill Prevention, Spill Response, Oil Storage, etc. – and the regulations with which you must comply may or may not be fully integrated into a state SPCC program. Also, state programs, regulations, and contacts are bound to change over time. You should always contact your state agency directly for the most complete, accurate, up-to-date information.

TEMPLATE SECTION 2 – FACILITY INFORMATION

Select the appropriate Section 2 that fits the type of facility (see Figure 2).

TEMPLATE SECTION 2A – ONSHORE FACILITIES (EXCLUDING PRODUCTION)

Select this Section 2 if your facility is an Onshore Facility (excluding production), see Figure 1. Include in your Plan only those parts of Section 2 that are applicable to your operations.

The SPCC Plan template was developed in a manner in which certain guidance, instruction or clarification is provided in the text of the Plan and is therefore not repeated here.

2A.1 Container and Potential Spills Table

Document in this table each container and other potential spill sources at the facility as follows:

- Container identification (name, number or other reference),
- Type of oil stored (you need only document the basic type of product – i.e., "gasoline" instead of "super unleaded gasoline" or "lube oil" instead of a marketing brand name/number),
- Shell capacity (design liquid level) of the container (for mobile/portable containers, indicate range),
- Type of potential failure (e.g., overflow, leak, rupture),
- Rate of flow (i.e., filling rate, pumping rate, instantaneous loss of container),
- Direction of flow (direction in which a discharge would flow (include receiving water body if known), and
- Containment system(s) (include type of secondary containment and material of construction).

  Indicate whether or not "appropriate containment and/or diversionary structures or equipment to prevent a discharge" as discussed in §112.7(c) is provided for the facility. Sample secondary containment volume calculations are provided in Exhibit E. If appropriate containment and/or diversionary structures or equipment are not provided, you must then address the impracticability requirements discussed in Section 1.9.

Containers -- Examples of containers include storage tanks (above and below ground), portable drums/totes, mobile containers (e.g., frac tanks, tank trucks, tank cars) for temporary storage, transformers, oil reservoirs of manufacturing and operating equipment, and any oil storage container, which holds oil or oil products, equal to or greater than 55 gallons, not otherwise exempted.

Wastewater -- Per §112.1(d)(6) of the rule, facilities or portions of facilities used exclusively for wastewater treatment are exempt from SPCC requirements where the treatment performs further purification of the water and does not accumulate oil for storage. Oil storage containers associated with the facility's wastewater treatment system are SPCC-regulated. EPA guidance has indicated that secondary containment itself does not require secondary containment, and that secondary containment is not required for sewer systems. EPA also indicated that remediation equipment not storing oil is exempted under the wastewater treatment exemption.

2A.1 Container and Potential Spills Table (Cont'd)

Shell Capacity --The shell capacity (design liquid level) is the amount of oil that a container is designed to hold. If a certain portion of a container is incapable of storing oil because of its integral design (i.e., an interior component takes up space), then the shell capacity of the container is reduced to the volume the container might hold (paraphrased from FR Vol. 67, No. 137, pg. 47081, July 17, 2002).

API Standard 650 (*API Standard 650: Welded Tanks for Oil Storage,* eleventh edition, addendum 2*,* American Petroleum Institute, Washington, D.C., November 2009, Section 5.2.6, Figure 5-4, page 5-7) further provides a means of calculating the design capacity (design liquid level) of a tank, an excerpt from this standard is provided in Exhibit F. It is not intended that the operating capacity of a container be equated to alarm level (High or High-High) volumes, safe fill volumes, or other means of reducing storage volumes by altering the original design capacity of a container.

Definition of Oil -- The definition of oil is provided in §112.2 of the rule. Although there are no all inclusive lists, one "List of Oils" is provided by the U.S. Coast Guard and is available through the USCG website.

Sized Secondary Containment (§§112.6(a)(3)(ii), 112.8(c)(2), 112.9(c)(2)) is required for the largest container in a containment area plus sufficient freeboard for precipitation. The SPCC regulations do not specify a volume for "sufficient freeboard"; however, industry practice suggests using a containment volume equivalent to 110% of the volume of the largest tank (except for locations with more stringent State or local requirements). The calculation of this containment volume should consider displacements by other tanks, intermediate berms, etc. The PE should use his/her discretion to determine the appropriate freeboard for the facility and document the volume determination. A sample calculation of containment volume including freeboard is provided in Exhibit E. "Whatever method is used to calculate the amount of "sufficient" freeboard must be documented in the Plan" (67 FR 47117, July 17, 2002).

General Secondary Containment (§112.7(c)) is required for the most likely quantity of oil discharged from all regulated parts of a facility, including each regulated oil container, oil-filled operational equipment, mobile refuelers and other non-transportation-related tank trucks, or tank truck/tank car transfers outside loading/unloading rack.

Sufficiently Impervious -- The entire containment system (where dikes, berms or retaining walls are used) 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.** A complete description of how secondary containment is designed, implemented and maintained to meet the standard of sufficiently impervious is necessary. The Plan must describe how the secondary containment is designed to meet that standard. In meetings with industry, EPA staff has stated that the performance measure for evaluating "sufficiently impervious" is prevention of a discharge to navigable waters or adjoining shorelines. "Sufficiently impervious" containment is achieved by any method of containment that prevents oil or oil products from reaching navigable waters in a quantity of oil that may be harmful. Applicable State and local requirements may be more stringent.

2A.2 Bulk Storage Containers

2A.2.1 Completely Buried Tanks

Completely buried tanks, as regulated under the SPCC rule, are those tanks not covered by Underground Storage Tank regulations (40 *CFR* Parts 280 or 281), have 55 gallons or more in shell capacity, and are not exempted as part of a wastewater collection and treatment system. However, as noted earlier, all underground tanks regulated under the underground storage tank regulations (40 *CFR* Parts 280 or 281) are to be identified on the facility diagram.

Partially buried or bunkered tanks that are covered by Part 280 or 281 are covered by SPCC regulations.

2A.2.2 Mobile or Portable Containers

Mobile/portable containers could include drums, totes, trucks or railcars. If the truck or rail car at an SPCC-regulated facility 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 is subject to the SPCC rule if there were a reasonable possibility of discharge from the vehicle to navigable waters.

2A.3 Facility Containment, Drainage and Effluent Treatment

2A.3.1 Secondary Containment Systems Table

Describe in this table each containment area's identification (if any), method of drainage (e.g., manual valves, pumps, ejectors, vacuum truck), type of containment (e.g., berm, trench, catchment basin) and material of construction (e.g., earthen material, concrete, synthetic liner).

This table should include the containment systems for any applicable tankage, the truck loading/ unloading rack (§112.7(h)) and other applicable storage areas. The table should also include the "general" containment provided (§112.7(c)) for truck loading/unloading areas (non-rack areas), oil-filled electrical equipment (i.e. transformers) and other equipment requiring 112.7(c) general secondary containment.

2A.3.2 Undiked Area Drainage

If the facility uses site drainage (i.e., undiked areas) to retain oil from a potential discharge (i.e., piping, transfer areas), the drainage from these areas should flow to ponds, lagoons or catchment basins or be otherwise contained. Examples of undiked areas may include piping manifolds, overhead piping to truck racks, or other incidental operations outside of the secondary containment systems. If ponds, lagoons, or catchment basins are not used, the facility should provide retention measures (i.e., oil baffles, sorbent materials). To deviate from these requirements, equivalent environmental protection (§112.7(a)(2)) must be provided (see Section 1.10 above). The SPCC Plan must document the reasons for the deviation and equivalent environmental protection provided.

2A.4 Facility Piping

Section 112.8(d)(1) states that buried piping installed or replaced on or after August 16, 2002 is to be provided with a protective wrapping and coating and to be cathodically protected. Deviations may be made from this requirement on the basis of equivalent environmental protection. See Section 1.10. As determined by the certifying PE, cathodic protection may not always be appropriate based on an engineering evaluation of site-specific conditions, including soil conditions.

2A.5 Facility Tank Car & Tank Truck Loading/Unloading Rack(s) and Area(s)

Distinction must be made between a loading rack and a loading area as it has an impact on the amount of containment that is needed and the types of safeguards that should be in place. As per the regulation, a "Loading/unloading rack means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices" (40 *CFR* 112.2 Definitions). Mobile drilling and workover facilities by nature of the operations would not likely have a loading/unloading rack.

A loading/unloading arm is a key component of a loading/unloading rack. The preamble to the rule states, "[a] loading/unloading arm is typically a movable piping assembly that may include fixed piping or a combination of fixed and flexible piping, typically with at least one swivel joint (that is, at least two articulated parts that are connected in such a way that relative movement is feasible to transfer product via top or bottom loading/unloading to a tank truck or rail car)" (73 FR 74249). It goes on to further explain that "[c] certain loading/unloading arm configurations present at loading racks may include a loading/unloading arm that is a combination of flexible piping (hoses) and rigid piping without a swivel joint. In this case, a swivel joint is not present on the loading arm because flexible piping is attached directly to the rigid piping of the loading arm and the flexible hose provides the movement needed to conduct loading or unloading operations in lieu of the swivel joint" (73 FR 74249).

Further, a loading/unloading rack is not a fixed pipe to which a temporary connection (i.e. flex hose) can be attached to allow the transfer of liquid to or from a storage tank that occurs using a pump located on the tank truck or a pump located a short distance from the connector.

At an SPCC regulated-facility, loading and unloading activities at areas or equipment (including but not limited to dispensers, pipe stands or trans areas) that do not meet the definition of a loading/unloading rack would not be subject to the requirements of 40 *CFR* §112.7(h) but, would be subject, to the general containment requirements of 40 *CFR* §112.7(c).

2A.6 Security

The streamlined security requirements provided for "qualified facilities" in 2006 are extended to all facilities in the 2009 rulemaking. The Plan must describe how the facility secures and controls access to the oil handling, processing and storage areas at the facility, secures master flow and drain valves, prevents unauthorized access to starter controls, secures out-of-service and loading/unloading connections of oil pipelines, and addresses the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

2A.7 Inspections, Tests and Records

Integrity Testing – The rule requires the facility owner/operator to test or inspect each aboveground container for integrity on a regular schedule and whenever he makes material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive 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.

The SPCC rule (§112.7(a)(2)) allows owners or operators to substitute procedures or other measures that provide equivalent environmental protection for certain provisions, including integrity testing (see Section 1.10, Deviations to the Rule). In a letter to the Petroleum Marketers Association of America (PMAA), EPA has provided interpretive guidance that visual inspection alone may be an acceptable deviation from integrity testing per industry standards, for certain smaller containers for which internal corrosion poses minimal risk of failure and for which all sides are visible (i.e., the container has no contact with the ground):

> "It is our EPA 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 the 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) 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 same vein, we'd [EPA] 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" *(Petroleum Marketers Association of America, et al. V. Michael O. Leavitt and Unites States Environmental Protection Agency,* Civil Action No. 02-02249 Settlement Agreement, Attachment A, page two, 2004, and referenced 69 FR 29730, May 25, 2004)".

See "Letter from Marianne Lamont Horinko, EPA Assistant Administrator, Office of Solid Waste and Emergency Response, to Dan Gilligan, Petroleum Marketers Association of America, May 25, 2004," in Exhibit A.2.

These deviations and their environmental equivalence to integrity testing as specified in the SPCC Rule should be explained in Section 1.10.

Brittle Fracture – When a field–constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service, you must evaluate it for the risk of discharge or failure due to brittle fracture or other catastrophe and as necessary, take appropriate action (§112.7(i)). To facilitate this process, API Standard 653 (*API Standard 653: Tank Inspection, Repair, Alteration, and Reconstruction, fourth edition*, American Petroleum Institute, Washington, DC, April 2009) provides a table for "Brittle Fracture Considerations" which has been provided in Exhibit G, 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).

Records – Business records, NPDES by-pass events, state discharge reports, and other customary/business practices may be used instead of creating documents for an SPCC Plan.

TEMPLATE SECTION 2B – ONSHORE OIL PRODUCTION FACILITIES

Select this Section 2 if your facility is an Onshore Oil Production Facility (see Figure 1). Include in your Plan only those parts of Section 2 that are applicable to your operations.

The SPCC Plan template was developed in a manner in which certain guidance, instruction or clarification is provided in the text of the Plan and is therefore not repeated here.

2B.1 Container and Potential Spills Table

Refer to Section 2A.1 for Guidance, Instruction and Clarification.

Outside the loading rack, loading/unloading area(s) used to transfer oil to/from tank car or tank truck and the facility must have appropriate secondary containment as described in §112.7(c).

The 2009 SPCC amendments provide an alternative to sized secondary containment for both "flow-through process vessels" and produced water containers at oil production facilities. Examples of "flow-through process vessels" include but are not limited to horizontal and vertical separators, heater treaters, free-water knockout vessels, and gun-barrels. "The general secondary containment requirements of §112.7(c) still applies to flow-through process vessels; they must be provided with secondary containment so that any discharge does not escape the containment system before cleanup occurs" (73 FR 74277, December 5, 2008). While active containment (*e.g.* spill kit or drum) can be used, the time to respond, the distance to the navigable waters, and the most likely release will dictate how best to provide general containment. "…EPA believes that oil production facility owners and operators may want to provide secondary containment (such as berms) around the entire tank battery, as many oil production facilities currently do" (73 FR 74277, December 5, 2008).

Produced water containers are any containers "...used to store well fluids that result after marketable crude oil is separated from the fluids extracted from the reservoir and prior to disposal, subsequent use (*e.g.*, re-injection or beneficial re-use), or further treatment. The alternative measures to sized containment include general containment for the produced water containers and "…implementation of a procedure or process to remove free-phase oil (*e.g.*, skimming program) as certified by a PE, visual inspection, corrective actions or repairs to the container; and prompt removal or remediation of oil discharges" (74 FR 58796, November 13, 2009). If the facility has a discharge of more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or discharges more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period, from flow-through process vessels (§12.9(c)(5)(iv))or produced water containers (§112.9(c)(6)(v)), then the more stringent secondary containment and inspection requirements apply.

2B.2 Facility Drainage

Describe the facility's drainage of diked and un-diked areas. As described in §112.9(b), dike drain valves must be closed and sealed at all times except when draining. Prior to draining, you must remove accumulated oil, if present, from the rainwater. Inspect field drainage systems for accumulated oil and remove promptly.

"EPA believes that secondary containment is, in most cases, impracticable for flowlines and intra-facility gathering lines. Therefore, the Agency is amending §112.7(c) to provide an alternative (which is optional) to the general secondary containment requirements for flowlines and intra-facility gathering lines…" (73 FR 74274, December 5, 2008).

The alternative measures include an oil spill contingency plan and a written commitment of manpower, equipment and materials to respond without an impracticability determination. Where facilities have already installed containment for flowlines and intra-facility gathering lines, these facilities are not required to provide a contingency plan in addition to secondary containment.

2B.3 Facility Transfer Operations

Describe the inspection procedures for 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. In addition, produced water disposal facility inspections and flowline inspections and maintenance should be detailed.

2B.4 Facility Tank Car and Tank Truck Loading/Unloading Rack(s) and Area(s)

The definition of a tank car and tank truck loading/unloading rack is provided in Section 2A.5. Although this section would not typically apply to E&P facilities, if you have a rack, refer to Section 2A.5 for guidance.

2B.5 Inspections, Tests and Records

Production facilities are not required to conduct integrity tests of their bulk storage containers unless a determination has been made that secondary containment systems are not practicable (§112.7(d)). However, production facilities are required to periodically and upon a regular schedule visually inspect each container or oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground. The 112.9 inspections, tests and records required for these facilities are described with adequate detail in the template SPCC Plan.

Brittle Fracture -- When a field–constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service, you must evaluate it for the risk of discharge or failure due to brittle fracture or other catastrophe and as necessary, take appropriate action (§112.7(j)). To facilitate this process, API Standard 653 (from *API Standard 653: Tank Inspection, Repair, Alteration, and Reconstruction, fourth edition*, American Petroleum Institute, Washington, DC, April 2009) provides a table for "Brittle Fracture Considerations" which has been provided in Exhibit G. 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).

TEMPLATE SECTION 2C – ONSHORE OIL DRILLING AND WORKOVER FACILITIES

Select this Section 2 if your facility is an Onshore Oil Drilling or Workover Facility (see Figure 1). Include in your Plan only those parts of Section 2 that are applicable to your operations.

The SPCC Plan template was developed in a manner in which certain guidance, instruction or clarification is provided in the text of the Plan and is therefore not repeated here.

Meet the general requirements listed under §112.7.

Position or locate mobile drilling or workover equipment so as to prevent a discharge of oil as described in §112.1(b). The SPCC Plan may be a generic (i.e., does not have to be site-specific) plan.

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

A blowout preventer (BOP) assembly and well control system should be installed that will be capable of controlling any wellhead pressure anticipated before drilling below any casing string or during workover operations. See §112.10(d).

2C.1 Facility Tank Car and Tank Truck Loading/Unloading Rack

This Section is not applicable to onshore oil drilling and workover facilities.

2C.2 Inspections, Tests and Records

Onshore drilling and workover facilities are not required to conduct integrity tests of their containers unless a determination has been made that secondary containment systems are not practicable (§112.7(d)). The inspections, tests and records required for these facilities are described with adequate detail in the template SPCC Plan.

Brittle Fracture -- When a field–constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service, you must evaluate it for the risk of discharge or failure due to brittle fracture or other catastrophe and as necessary, take appropriate action (§112.7(i)). To facilitate this process, API Standard 653 (from *API Standard 653: Tank Inspection, Repair, Alteration, and Reconstruction, fourth edition*, American Petroleum Institute, Washington, DC, April 2009) provides a table for "Brittle Fracture Considerations" which has been provided in Exhibit G. 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.

TEMPLATE SECTION 2D – OFFSHORE OIL DRILLING, PRODUCTION, OR WORKOVER FACILITIES

Select this Section 2 if your facility is an Offshore Oil Drilling, Production, or Workover Facility (see Figure 1). Include in your Plan only those parts of Section 2 that are applicable to your operations.

The SPCC Plan template was developed in a manner in which certain guidance, instruction or clarification is provided in the text of the Plan and is therefore not repeated here.

Meet the general requirements listed under §112.7.

A blowout preventer (BOP) assembly and well control system must be installed that will be capable of controlling any wellhead pressure anticipated before drilling below any casing string or during workover operations. See §112.11(k).

2D.1 Facility Containers

Refer to Section 2B.1 for Guidance, Instruction and Clarification.

2D.2 Inspections, Tests, and Records

Offshore oil drilling, production or workover facilities are not required to conduct integrity tests of their containers unless a determination has been made that secondary containment systems are not practicable (§112.7(d)). The inspections, tests and records required for these facilities are described with adequate detail in the template SPCC Plan.

Brittle Fracture -- When a field–constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service, you must evaluate it for the risk of discharge or failure due to brittle fracture or other catastrophe (§112.7(i)). To facilitate this process, API Standard 653 (from *API Standard 653: Tank Inspection, Repair, Alteration, and Reconstruction, fourth edition*, American Petroleum Institute, Washington, DC, April 2009) provides a table for "Brittle Fracture Considerations" which has been provided in Exhibit G. 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.

Suggested Procedure for Development of a Spill Prevention, Control, and Countermeasure (SPCC) Plan

EXHIBITS

API BULLETIN RP D-16
FIFTH EDITION, FEBRUARY 2010

American Petroleum Institute

Developed by:
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Exhibit A
Oil Pollution Prevention Regulatory References

A.1 40 *CFR* Part 112 – Oil Pollution Prevention
A.2 SPCC Settlement Agreement

Exhibit A.1 – 40 *CFR* Part 112 – Oil Pollution Prevention

The SPCC Regulations can be obtained on-line:

1. Go to the eCFR web site at http://ecfr.gpoaccess.gov
2. Select from the pop-up menu, “Title 40 – Protection of the Environment,” and click, “Go”
3. Under “Browse Parts,” click on “100-135”
4. Under “Part,” click on “112”

Exhibit A.2 – SPCC Settlement Agreement

Litigation Settlement of *American Petroleum Institute v. Leavitt et al.,* No. 1:102CV02247PLF 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.

Source: 69 FR 29728, May 25, 2004.

ENVIRONMENTAL PROTECTION AGENCY
[FRL–7666–7]
Notice Concerning Certain Issues Pertaining to the July 2002 Spill Prevention, Control, and Countermeasure (SPCC) Rule

AGENCY: Environmental Protection Agency.
ACTION: Notice.

SUMMARY: The Environmental Protection Agency (EPA) has partially settled litigation over the Spill Prevention, Control, and Countermeasure (SPCC) rule. This notice provides clarifications developed by the Agency during the course of settlement proceedings. It also announces the availability of a letter issued by EPA's Office of Solid Waste and Emergency Response (OSWER) to the Petroleum Marketers Association of America (PMAA) on our website, *i.e., epa.gov/oilspill,* or by contacting the docket as described below under **ADDRESSES.**

ADDRESSES: EPA has established a docket for this action under Docket: OPA–2004–0002. All documents in the docket are listed in the EDOCKET index at *http://www.epa.gov/edocket.* Although listed in the index, some information is not publicly available, *i.e.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in EDOCKET or in hard copy at the EPA Docket Center EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. and 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket is (202) 566–0276.

FOR FURTHER INFORMATION CONTACT: Hugo Paul Fleischman, Oil Program Staff, U.S. EPA, at 703–603–8769 (*fleischman.hugo@epa.gov*); or the RCRA/Superfund Hotline at 800–424–9346 (in the Washington, DC metropolitan area, 703–412–9810) (*epahotline@bah.com*). The Telecommunications Device for the Deaf (TDD) Hotline number is 800–553–7672 (in the Washington, DC metropolitan area, 703–412–3323). You may wish to visit the Oil Program's Internet site at *http://www.epa.gov/oilspill.*

SUPPLEMENTARY INFORMATION:
I. General

How Can I Get Copies of the Background Materials Supporting Today's Notice or Other Related Information? EPA will publish this document, as well as the letter from OSWER to PMAA described more fully below, on its Web site, *http://epa.gov/oilspill,* and has already posted the settlement agreement on that Web site. Alternatively, contact the docket as described above under **ADDRESSES.** You may access this **Federal Register** document electronically through the EPA Internet under the ''**Federal Register**'' listings at *http://www.epa.gov/fedrgstr.*

II. Background

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.
Litigation

On July 17, 2002, EPA published a final rule (67 FR 47042), amending the SPCC regulation. Several members of the regulated community filed legal challenges to certain aspects of the rule. *See American Petroleum Institute* v. *Leavitt* et al., No. 1;102CV02247 PLF and consolidated cases (D.D.C. filed November 14, 2002). Settlement discussions between EPA and the plaintiffs have led to an agreement on all issues except one. In this notice, we are publishing clarifications developed by the Agency during the course of settlement proceedings (and which provided the basis for the settlement agreement) regarding the SPCC regulation to the regulated community and other interested parties. We are also notifying the public of the availability of OSWER's letter to PMAA referenced above, on our Web site, *http://epa.gov/oilspill,* and through the docket, as described above.

III. Clarifications

Loading Racks

Plaintiffs challenged certain statements made in the preamble to the July 2002 SPCC amendments (and the response-to-comment document) concerning the ''loading/unloading rack'' requirements under 40 *CFR* 112.7(h). That provision addresses specific SPCC requirements for tank car and tank truck loading and unloading racks, including requirements for secondary containment. The preamble language at issue, which appears at 67 FR 47110 (July 7, 2002), stated the following:

This section is applicable to any nontransportation-related or terminal facility where oil is loaded or unloaded from or to a tank car or tank truck. It applies to containers which are aboveground (including partially buried tanks, bunkered tanks, or vaulted tanks) or completely buried except those exempted by this rule), and to all facilities, large or small. All of these facilities have a risk of discharge from transfers (Emphasis added).

The Agency did not intend with the emphasized language to interpret the term ''loading/unloading rack.'' Instead, the Agency was responding generally to a variety of comments each asking that their specific situation not be subject to the 40 *CFR* 112.7(h) requirements. The reasoning of these commenters did not focus specifically on the contours of what might be considered a loading/unloading rack, but instead focused on a variety of other factors relevant to their facilities. See, *e.g.*, 67 FR 47110 (July 17, 2002) (''Another commenter asked that we clarify that only facilities routinely used for loading or unloading of tanker trucks from or into aboveground bulk storage tanks are subject to this provision.'') Thus, the emphasized language above was meant to be a rejection of pleas for exclusions of specific facilities, not an interpretation of the term 'loading/unloading rack.''

In the response-to-comments document for the rule, EPA stated that ''[w]e intend § 112.7(h) to apply to all facilities, including production facilities.'' As discussed more fully below, we 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.

Plaintiffs also challenged a change in the language of § 112.7(h) (formerly codified as § 112.7(e)(4)). Specifically, EPA substituted the phrase ''loading/unloading area drainage'' for the phrase ''rack area drainage'' in paragraph § 112.7(h)(1). The Agency does not interpret this change as expanding the requirements of that section beyond activities associated with tank car and tank truck loading/unloading racks. After all, the title of § 112.7(h) remains ''facility tank car and tank truck loading/unloading rack.'' In addition, the record for the rulemaking reflects that the Agency specifically rejected the idea of enlarging the scope of that section to apply beyond ''racks.'' (See response-to-comment document, p. 212, rejecting a comment on the proposed rule suggesting that we change the title of § 112.7(h) from ''loading/unloading rack'' to ''loading/unloading area'' because the Agency had not proposed such a change.)

Like other editorial changes to the rule, many of which were not accompanied by specific explanations, the Agency believes the change simply serves to make the rule easier to understand. *See,* 67 FR 47051 (describing the Agency's use of a ''plain language'' approach in the rule). In this case, the change in language made the terminology used in the sentence uniform (a basic principle of plain language approaches to rule writing). Previously, the rule stated that a facility must compensate for lack of specified drainage systems at the ''rack area'' with ''a quick drainage system for tank car or tank truck loading and unloading areas.'' Obviously, the scope of these two emphasized terms was always meant to be identical, and the challenged language change only makes that clearer.

Impracticability

Plaintiffs challenged statements made in the preamble to the SPCC amendments concerning the meaning of ''impracticability'' under 40 *CFR* 112.7(d). As you know, that section provides that where secondary containment is ''not practicable,'' a facility may use a contingency plan instead. The preamble language at issue, which appears at 67 FR 47104 (July 17, 2002), stated the following:

We believe that it may be appropriate for an owner or operator to consider costs or economic impacts in determining whether he can meet a specific requirement that falls within the general deviation provision of § 112.7(a)(2). We believe so because under this section, the owner or operator will still have to utilize good engineering practices and come up with an alternative that provides ''equivalent environmental protection.'' However, we believe that the secondary containment requirement in § 112.7(d) is an important component in preventing discharges as described in § 112.1(b) and is environmentally preferable to a contingency plan prepared under 40 *CFR* part 109. *Thus, we do not believe it is appropriate to allow an owner or operator to consider costs or economic impacts in any determination as to whether he can satisfy the secondary containment requirement. Instead, the owner or operator may only provide a contingency Plan in his SPCC Plan and otherwise comply with § 112.7(d). Therefore, the purpose of a determination of impracticability is to examine whether space or other geographic limitations of the facility would accommodate secondary containment; or, if local zoning ordinances or fire prevention standards or safety considerations would not allow secondary containment; or, if installing secondary containment would defeat the overall goal of the regulation to prevent discharges as described in § 112.1(b).* (Emphasis added.)

The Agency did not intend with the language emphasized above 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.) As discussed above, this conclusion is different than that reached with respect to purely economic considerations in determining whether to meet other rule requirements subject to deviation under § 112.7(a)(2). Under that section, as stated above, facilities may choose environmentally equivalent approaches (selected in accordance with good engineering practices) for any reason, including because they are cheaper.

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*.'' For more examples of situations that may rise to the level of impracticability, *see*, *e.g.* 67 FR 47102 (July 17, 2002) and 67 FR 47078 (July 17, 2002) (pertaining to flow and gathering lines).

Produced Water

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.

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).

Facility

In the July 2002 SPCC amendments, the Agency promulgated definitions of ''facility'' and ''production facility.'' These definitions, which appear in 40 *CFR* 112.2, apply ''for the purposes of'' part 112. The Agency has been asked which of these definitions governs the term ''facility'' as it is used in 40 *CFR* 112.20(f)(1) when applied to oil production facilities. 40 *CFR* 112.20(f)(1) sets criteria for determining whether a ''*facility* could, because of its location, reasonably be expected to cause substantial harm to the environment'' (emphasis added). It is the Agency's view that, because, among other things, that section consistently uses the term ''facility,'' not ''production facility,'' it is the definition of ''facility'' in 40 *CFR* 112.2 that governs the meaning of ''facility'' as it is used in 40 *CFR* 112.20(f)(1), regardless of the specific type of facility at issue.

Notice of Availability

With this notice, EPA is announcing the availability of a letter issued by the Assistant Administrator for OSWER to PMAA addressing certain matters pertaining to the SPCC rule's requirements for integrity testing, security, and loading racks. This letter is available on EPA's website at *epa.gov/oilspill* or by contacting the docket as described above.

Dated: May 17, 2004.
Marianne Lamont Horinko,
Assistant Administrator, Office of Solid Waste and Emergency Response.
[FR Doc. 04–11775 Filed 5–24–04; 8:45 am]
BILLING CODE 6560–50–P

Letter from Marianne Lamont Horinko, EPA Assistant Administrator, Office of Solid Waste and Emergency Response, to Dan Gilligan, Petroleum Marketers Association of America, May 25, 2004, Concerning Litigation Settlement of Integrity Testing and Security Issues.

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 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

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[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.

Revision to Regulatory Definition of "Navigable Waters" per United States District Court for the District of Columbia Decision in *American Petroleum Institute v. Johnson,* 571 F. Supp. 2d 165 (D. D. C. 2008), March 31, 2008.

Source: 73 FR 71941, November 26, 2008.

ENVIRONMENTAL PROTECTION AGENCY
40 *CFR* Part 112
[EPA–HQ–OPA–2008–0569 FRL–8746–1]
RIN 2050–AG48

Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure Rule; Revisions to the Regulatory Definition of ''Navigable Waters''

AGENCY: Environmental Protection Agency.
ACTION: Final rule; Response to court order vacating regulatory definition of navigable waters.

SUMMARY: The Environmental Protection Agency (EPA) is promulgating a final rule to amend a Clean Water Act (CWA) section 311 regulation that defines the term ''navigable waters.'' On July 17, 2002, EPA promulgated a final rule which included revisions to the definition of ''navigable waters'' in the Spill Prevention, Countermeasure and Control (SPCC) regulation. In this action, EPA is announcing the vacatur of the July 17, 2002 revisions to the definition of ''navigable waters'' in accordance with an order, issued by the United States District Court for the District of Columbia (D.D.C.) in *American Petroleum Institute* v. *Johnson*, 571 F.Supp.2d 165 (D.D.C. 2008), invalidating those revisions. The court decision also restored the regulatory definition of ''navigable waters'' promulgated by EPA in 1973; consequently, we are amending the definition of ''navigable waters'' in part 112 to comply with that decision.

DATES: This rule is effective November 26, 2008.

ADDRESSES: The public docket for this final rule, Docket ID No. EPA–HQ– OPA–2008–0569, contains the information related to this rulemaking. All documents in the docket are listed in an index at *http:// www.regulations.gov*. Although listed in the index, some information may not be publicly available, such as Confidential Business Information (CBI) or other information the disclosure of which is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically at *http:// www.regulations.gov* or in hard copy at the EPA Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number of the Public Reading Room is 202–566–1744, and the telephone number to make an appointment to view the docket is 202–566–0276.

FOR FURTHER INFORMATION CONTACT: For general information, contact the Superfund, TRI, EPCRA, RMP, and Oil Information Center at 800–424–9346 or TDD at 800–553–7672 (hearing impaired). In the Washington, DC metropolitan area, contact the Superfund, TRI, EPCRA, RMP, and Oil Information Center at 703–412–9810 or TDD 703–412–3323. For more detailed information on specific aspects of this final rule, contact Hugo Fleischman of EPA at 202–564–1968 (*fleischman.hugo@epa.gov*), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460–0002, Mail Code 5104A.

SUPPLEMENTARY INFORMATION:

I. Background

A. Potentially Affected Entities

Persons or entities who own or operate facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using or consuming oil or oil products, which due to their location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in 40 *CFR* part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, could be affected by this rule. The rule addresses the regulatory definition of ''navigable waters'' under the Clean Water Act (CWA) section 311, a term that is important in determining which owners or operators are required to prepare Spill Prevention, Control and Countermeasure (SPCC) Plans and/or Facility Response Plans (FRP) under 40 *CFR* part 112 for their facilities. As described further below, this action does not increase regulatory burdens, but rather conforms the language in EPA's CWA section 311 regulations to the outcome of a lawsuit challenging the regulatory definition. Examples of entities that might potentially be affected include:

Industry sector	NAICS code
Oil Production	211111
Farms	111, 112
Electric Utility Plants	2211
Petroleum Refining and Related Industries	324
Chemical Manufacturing	325
Food Manufacturing	311, 312
Manufacturing Facilities Using and Storing Animal Fats and Vegetable Oils	311, 325
Metal Manufacturing	331, 332
Other Manufacturing	31–33
Real Estate Rental and Leasing	531–533
Retail Trade	441–446, 448, 451–454
Contract Construction	23
Wholesale Trade	42
Other Commercial	492, 541, 551, 561–562
Transportation	481–488
Arts Entertainment & Recreation	711–713
Other Services (Except Public Administration)	811–813
Petroleum Bulk Stations and Terminals	4247
Education	61
Hospitals & Other Health Care	621, 622
Accommodation and Food Services	721, 722
Fuel Oil Dealers	45431
Gasoline stations	4471
Information Finance and Insurance	51, 52
Mining	212
Warehousing and Storage	493
Religious Organizations	813110
Military Installations	928110
Pipelines	4861, 48691
Government	92

The list of potentially affected entities in the above table may not be exhaustive. The Agency's goal is to provide a guide for readers to consider regarding entities that potentially could be affected by this action. However, this action may affect other entities not listed in this table. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding section titled **FOR FURTHER INFORMATION CONTACT.**

B. The SPCC Rule and Litigation

Section 311 of the CWA prohibits the discharge of oil in quantities that may be harmful, as described in 40 *CFR* part 110, into or upon the navigable waters of the United States or adjoining shorelines (33 U.S.C. 1321(b)(3)). Section 311(j)(1)(C) requires the President of the United States (the President) to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil to navigable waters or adjoining shorelines from vessels and facilities and to contain such discharges. 33 U.S.C. 1321(j)(1)(C). The President delegated the authority to regulate non-transportation-related onshore facilities to EPA in Executive Order 11548 (35 FR 11677, July 22, 1970), which was superseded by Executive Order 12777 (56 FR 54757, October 22, 1991).

The SPCC rule was originally promulgated on December 11, 1973 (38 FR 34164). The 1973 SPCC rule defined ''navigable waters'' in 40 *CFR* 112.2(k) as follows:

The term ''navigable waters'' of the United States means ''navigable waters'' as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92–500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

On July 17, 2002, EPA published a final rule amending the SPCC rule at 40 *CFR* part 112, formally known as the Oil Pollution Prevention regulation (67 FR 47042). The July 2002 rule became effective on August 16, 2002, and included revised requirements for SPCC and Facility Response Plans (FRPs), including a revision to the regulatory definition of ''navigable waters'' (§ 112.2).

The American Petroleum Institute, the Petroleum Marketers Association of America and Marathon Oil Company challenged certain aspects of this regulation. On March 31, 2008, the U.S. District Court for the District of Columbia ruled that the Agency's promulgation of the revised definition of ''navigable waters'' in the July 2002 SPCC rule violated the Administrative Procedure Act. (*American Petroleum Institute* v. *Johnson*, 571 F.Supp. 2d 165, 173 (D.D.C. 2008)). The court concluded that the Agency failed to provide a reasoned explanation for its decision to promulgate the broader definition of ''navigable waters.'' (*Id.* at 173, 182–185.) The court vacated the July 2002 SPCC regulatory definition of ''navigable waters'' and specifically restored the 1973 SPCC regulatory definition pending further rulemaking or other appropriate Agency action. (*Id.* at 186–87.) None of the parties appealed the court's decision.

II. This Final Rule

This final rule conforms the language in the Code of Federal Regulations with the legal state of the regulation defining ''navigable waters'' in the SPCC rule following the District Court's decision invalidating the July 2002 SPCC rule revisions to the definition of ''navigable waters.'' This rule restores the 1973 SPCC rule definition of ''navigable waters'' in conformance with the District Court's decision.

III. Why Do We Have Good Cause for Promulgating an Immediately Effective Final Rule Without Prior Notice and Opportunity for Public Comment?

Under the Administrative Procedure Act (APA), 5 U.S.C. 553, agencies generally are required to publish a notice of proposed rulemaking and provide an opportunity for the public to comment on any substantive rulemaking action. However, the Agency may issue a rule without providing notice and an opportunity for public comment, when the Agency for good cause finds (and incorporates the finding and a brief statement of reasons therefore in the rules issued) that notice and public comment procedures thereon are impracticable, unnecessary, or contrary to the public interest. 5 U.S.C. 553(b)(3)(B). EPA has determined that there is good cause for making this rule final without prior proposal and opportunity for comment because of the court-ordered decision from the 2002 SPCC rule litigation. EPA finds that this constitutes good cause under 5 U.S.C. 553(b)(B).

This rule merely conforms the language in Clean Water Act section 311 regulations to the District Court's decision invalidating the revisions to the regulatory definition of ''navigable waters'' promulgated on July 17, 2002. By restoring the 1973 SPCC rule definition of ''navigable waters,'' the revision in this final rule conforms the regulations to reflect the legal status quo in light of the District Court's March 31, 2008 order, invalidating the July 2002 SPCC rule definition of ''navigable waters.'' Therefore, pursuant to 5 U.S.C. 553(b)(3)(B), the Agency finds that solicitation of public comment is unnecessary because the court vacated the July 2002 SPCC regulatory definition of ''navigable waters'' and specifically restored the 1973 SPCC regulatory definition pending further rulemaking or other appropriate Agency action.

Under 5 U.S.C. 553(d)(1) and (3), rules must be published at least 30 days prior to their effective date, except where the rule ''grants or recognizes an exemption or relieves a restriction,'' or where justified by the Agency for ''good cause.'' The good cause rationale presented in the preceding paragraph also applies herein. Because this rule conforms to the published regulatory text with the applicable regulations following the District Court's March 31, 2008 order, the Agency has good cause to make this rule effective immediately.

IV. Statutory and Executive Order Reviews

A. General Requirements

This rule does not establish any new requirements, mandates or procedures. As explained above, this rule merely conforms the SPCC regulatory definition of ''navigable waters'' to reflect the District Court's March 31, 2008, decision. This rule does not result in any additional or new regulatory requirements because it is merely undertaken to conform the regulatory language to that judicial determination. Accordingly, EPA has determined that this rule is a ''significant regulatory action'' under Executive Order 12866, and thus is subject to review by the Office of Management and Budget (OMB).

This final rule does not impose an information collection burden under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* Burden is defined at 5 *CFR* 1320.3(b). The rule conforms the definition of ''navigable waters'' to reflect the ruling in the July 2002 SPCC rule litigation and does not establish or modify any information reporting or recordkeeping

requirements. Therefore, this rule is not subject to the requirements of the Paperwork Reduction Act. Because this rule is not subject to notice-and-comment requirements under the Administrative Procedure Act or any other statute, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). In addition, this rule does not contain any unfunded mandate or impose any enforceable duty or any significant or unique impact on small governments as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4). This rule also does not impose any federalism requirements or require prior consultation with tribal government officials as specified by Executive Order 13132 (64 FR 43255, August 10, 1999) or Executive Order 13175 (65 FR 67249, November 9, 2000), or involve special consideration of environmental justice-related issues as required by Executive Order 12898 (59 FR 7629, February 16, 1994).

This rule is not subject to Executive Order 13045, ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997), because it is not economically significant as defined under Executive Order 12866 and is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001), because it is not a significant regulatory action under Executive Order 12866. The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply.

B. Submission to Congress and the Comptroller General

The Congressional Review Act (CRA), 5 U.S.C. 801 *et seq*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. Section 808 allows the issuing agency to make a rule effective sooner than otherwise provided by the CRA if the agency makes a good cause finding that notice and public comment procedure is impracticable, unnecessary or contrary to the public interest. This determination must be supported by a brief statement. 5 U.S.C. 808(2). As stated above, the Agency has made such a good cause finding, including the reasons stated, and established an effective date of November 26, 2008. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of this rule in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 *CFR* Part 112

Environmental protection, Navigable waters, Oil pollution, Reporting and recordkeeping requirements, Water pollution control, Water resources.

Dated: November 20, 2008
Stephen L. Johnson,
Administrator.

In consideration of the foregoing, 40 *CFR* part 112 is amended as follows:

PART 112—OIL POLLUTION PREVENTION

1. The authority citation for part 112 continues to read as follows:

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.

Subpart A—[Amended]

2. Amend § 112.2 by revising the definition of ''navigable waters'' to read as follows:

§ 112.2 Definitions.

* * * * *

Navigable waters of the United States means ''navigable waters'' as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92–500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

* * * * * [FR Doc. E8–28123 Filed 11–25–08; 8:45 am]

BILLING CODE 6560–50–P

Exhibit B
Acronyms

API	American Petroleum Institute
AST	Aboveground Storage Tank
BOP	Blowout Preventer
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DOC	Department of Commerce
DOT	Department of Transportation
EO	Executive Order
EPA	Environmental Protection Agency
FR	Federal Register
FRP	Facility Response Plan
FWPCA	Federal Water Pollution Control Act
MMS	Minerals Management Service
MOU	Memorandum of Understanding
NOAA	National Oceanic and Atmospheric Administration (part of DOC)
NPDES	National Pollution Discharge Elimination System
NRC	National Regulatory Commission
NRC	Nuclear Regulatory Commission
NRC	National Response Center
NSPE	National Society of Professional Engineers
OCS	Outer Continental Shelf
OPA	Oil Pollution Act
OSHA	Occupational Safety and Health Administration
PE	Professional Engineer
PSM	Process Safety Management
SPCC	Spill Prevention, Control, and Countermeasure
USC	United States Code

Exhibit C
Standards Applicable To
The Revised SPCC Rule (Inclusive List)

SUMMARY: On July 17, 2002 (67 FR 47041), the U.S. Environmental Protection Agency amended the Oil Pollution Prevention regulation promulgated under the authority of the Federal Water Pollution Control Act or Clean Water Act. This rule includes requirements for Spill Prevention, Control, and Countermeasure (SPCC) Plans. The final rule revises the applicability of the regulation, amends the requirements for completing SPCC Plans, and makes other modifications.

INDUSTRY STANDARDS: The new rule refers to many industry standards. The rule's preamble (67 FR 47057, July 17, 2002) states the following:

"K. Industry Standards

Throughout the rule we generally allow for the application of industry standards where the standards are both specific and objective, and their application may reduce the risk of discharges to and impacts to the environment. We recognize that as technology advances, specific standards change. By referencing industry standards throughout the preamble, we anticipate that the underlying requirements of the rule itself will change as new technology comes into use without the need for further amendments. We believe that industry standards today represent good engineering practice and generally are environmentally protective. However, as under the current rule, if an industry standard changes in a way that would increase the risk of a discharge as described in §112.1(b), EPA will apply and enforce standards and practices that protect the environment, rather than the less protective industry standard.

Under the terms of this rule, when there is no specific and objective industry standard that applies to your facility (for example, whether there is no standard or a standard that uses the terms "as appropriate," "often," "periodically," and so forth), you should instead follow any specific and objective manufacturer's instructions for the use and maintenance or installation of the equipment, appurtenance, or container. If there is neither a specific and objective industry standard nor a specific and objective manufacturer's instruction that applies, then it is the duty of the PE under §112.3(d) to establish such specific and objective standards for the facility and, under §112.3(d), he must document these standards in the Plan. If the PE requires the use of a specific standard for implementation of the Plan, the owner or operator must also reference that standard in the Plan.

Throughout this preamble, we list industry standards that may assist an owner or operator to comply with particular rules. The list of those standards is merely for your information. They may or may not apply to your facility, but we believe that their inclusion is helpful because they generally are applicable to the topic referenced. The decision in every case as to the applicability of any industry standard will be one for the PE

For your convenience, we are including a list of organizations below that may be helpful in the identification and explanation of industry standards." (67 FR 47057)

API STANDARDS: API standards referenced throughout the preamble deal with a variety of issues related to SPCC and tanks in general. The listing of API standards cited in the preamble is as follows: 12B, 12D, 12F, 12J, 12K, 12R1, 16A, 16D, 16E, 51, 52, 53, 570, 574, 575, 620, 650, 653, 920 (replaced by 579), 1604, 2015, 2350, 2610, and the *Manual of Petroleum Measurement Standards (MPMS)* for alarms.

INDUSTRY STANDARDS REFERENCES BY SECTION:

Section 112.2 - definitions.

Alteration

Industry Standards. An industry standard that may be helpful in understanding the definition of "alteration" is API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction."

Repair

Industry standards. Industry standards that may be helpful in understanding the definition of repair (and reconstruction) include API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction."

Permanently closed

Industry standards. Industry standards that may be useful to effect the permanent closure of containers or facilities include: (1) National Fire Protection Association (NFPA) 30, "Flammable and Combustible Liquids Code"; (2) Building Officials and Code Administrators International (BOCA), "National Fire Prevention Code"; (3) American Petroleum Institute (API) Standard 2015, "Safe Entry and Cleaning of Petroleum Storage Tanks"; and, (4) API Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks."

Section 112.7(c) - secondary containment.

Industry standards. Industry standards that may assist an owner or operator with secondary containment include: (1) API Bulletin D16, Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans, (2) NFPA 30; (3) BOCA, National Fire Prevention Code; and, (4) API Standard 2610, "Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities."

Section 112.7(d) - contingency planning.

Industry standards. Industry standards that may assist an owner or operator with the integrity testing of containers, and the integrity and leak testing of piping and valves include: (1) API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction"; (2) API Recommended Practice 575, "Inspection of Atmospheric and Low-Pressure Tanks"; (3) API Standard 570, "Piping Inspection Code (Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems)"; (4) American Society of Mechanical Engineers (ASME) B31.3, "Process Piping"; (5) ASME 31.4, "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols"; (6) Steel Tank Institute Standard SP001-00, "Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids"; and, (7) Underwriters Laboratory (UL) Standard 142, "Steel Aboveground Tanks for Flammable and Combustible Liquids."

INDUSTRY STANDARDS REFERENCES BY SECTION (Cont'd):

Section 112.7(g) - security (excluding oil production facilities).

Industry standards. Industry standards that may assist an owner or operator with security purposes include: (1) API Standard 2610, Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities; and, (2) NFPA 30A, Automotive and Marine Service Station Code, Flammable and Combustible Liquids Code.

Section 112.7(h) - loading/unloading (excluding offshore facilities).

Industry standards. Industry standards that may assist an owner or operator with loading and unloading areas include: (1) NFPA 30, "Flammable and Combustible Liquids Code"; and, (2) API Standard 2610, "Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities."

Section 112.7(i) - brittle fracture evaluation.

Industry standards. Industry standards that may assist an owner or operator with brittle fracture evaluation include: (1) API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction"; and, (2) API Recommended Practice 920, "Prevention of Brittle Fracture of Pressure Vessels." – note that RP 920 has been replaced by API 579.

Section 112.8(b)(1) -- diked storage area drainage.

Industry standards. Industry standards that may assist an owner or operator with facility drainage include: (1) NFPA 30, "Flammable and Combustible Liquids Code"; and (2), API Standard 2610, "Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities."

Section 112.8(c)(1) - construction of and materials used for containers.

Industry standards. Industry standards that may assist an owner or operator with the material and construction of containers include: (1) API Standard 620, "Design and Construction of Large Welded Low-Pressure Storage Tanks"; (2) API Standard 650, "Welded Tanks for Oil Storage"; (3) Steel Tank Institute (STI) F911, "Standard for Diked Aboveground Steel Tanks"; (4) STI Publication R931, "Double Wall Aboveground Storage Tank Installation and Testing Instruction"; (5) UL Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids"; (6) UL Standard 142, "Steel Aboveground Tanks for Flammable and Combustible Liquids"; (7) UL Standard 1316, "Standard for Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products"; and, (8) Petroleum Equipment Institute (PEI) Recommended Practice 200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling."

INDUSTRY STANDARDS REFERENCES BY SECTION (Cont'd):

Section 112.8(c)(2) - secondary containment - bulk storage containers.

Industry standards. Industry standards that may assist an owner or operator with secondary containment for bulk storage containers include: (1) API Bulletin D16, Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans, (2) NFPA 30, "Flammable and Combustible Liquids Code"; (3) BOCA, National Fire Prevention Code; (4) API Standard 2610, "Design Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities"; and, (5) Petroleum Equipment Institute Recommended Practice 200, "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling."

Section 112.8(c)(6) - integrity testing.

Industry standards. Industry standards that may assist an owner or operator with integrity testing include: (1) API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction"; (2) API Recommended Practice 575, "Inspection of Atmospheric and Low-Pressure Tanks;" and, (3) Steel Tank Institute Standard SP001-04, "Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids."

Section 112.8(c)(8) - good engineering practice - alarm systems.

Industry standards. Industry standards that may assist an owner or operator with alarm systems, discharge prevention systems, and inventory control include: (1) NFPA 30, "Flammable and Combustible Liquids Code"; (2) API Recommended Practice 2350, "Overfill Protection for Storage Tanks in Petroleum Facilities"; and, (3) API, "Manual of Petroleum Measurement Standards." – note: we are reviewing which MPMS standards would apply.

Section 112.8(d)(4) - inspection of aboveground valves and piping.

Industry standards. Industry standards that may assist an owner or operator with inspection and testing of valves, piping, and appurtenances include: (1) API Standard 570, "Piping Inspection Code (Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems"; (2) API Recommended Practice 574, "Inspection Practices for Piping System Components"; (3) American Society of Mechanical Engineers (ASME) B31.3, "Process Piping"; and, (4) ASME B31.4, "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols."

Proposed Section 112.9(b) - definition - onshore oil production facilities.

Industry standards. Industry standards that may assist an owner or operator with facility drainage include API Recommended Practice 51, "Onshore Oil and Gas Production Practices for Protection of the Environment."

INDUSTRY STANDARDS REFERENCES BY SECTION (Cont'd):

Section 112.9(c)(1) - proposed as §112.9(d)(1) - materials and construction - bulk storage containers.

Industry standards. Industry standards that may assist an owner or operator with materials for and construction of onshore bulk storage production facilities include: (1) API Specification 12B, "Bolted Tanks for Storage of Production Liquids"; (2) API Specification 12D, "Field Welded Tanks for Storage of Production Liquids"; (3) API Specification 12F, "Shop Welded Tanks for Storage of Production Liquids"; (4) API Specification 12J, "Oil Gas Separators"; (5) API Specification 12K, "Indirect-Type Oil Field Heaters"; and, (6) API Specification 12L, "Vertical and Horizontal Emulsion Treaters."

Section 112.9(c)(2) - proposed as §112.9(d)(2) - secondary containment, drainage.

Industry standards. Industry standards that may assist an owner or operator with secondary containment at onshore production facilities include: (1) API Bulletin D16, Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans, (2) API Recommended Practice 51, "Onshore Oil and Gas Production Practices for Protection of the Environment"; (3) NFPA 30, "Flammable and Combustible Liquids Code"; and, (4) BOCA, "National Fire Prevention Code."

Section 112.9(c)(3) - proposed as §112.9(d)(3) - container inspection.

Industry standards. Industry standards that may assist an owner or operator with inspection of containers at onshore production facilities include: (1) API Recommended Practice 12R1, "Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service"; and, (2) "API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction."

Section 112.9(c)(4) - proposed as §112.9(d)(4) - good engineering practice.

Industry standards. Industry standards that may assist an owner or operator with alarm systems include: (1) API, "Manual of Petroleum Measurement Standards"; (2) API Recommended Practice 51, "Onshore Oil and Gas Production Practices for Protection of the Environment"; (3) API Recommended Practice 2350, "Overfill Protection for Storage Tanks in Petroleum Facilities"; and, (4) NFPA 30, "Flammable and Combustible Liquids Code."

Section 112.10(c) - secondary containment - catchment basins or diversion structures.

Industry standards. Industry standards that may assist an owner or operator with secondary containment at onshore oil drilling and workover facilities include: (1) API Bulletin D16, Suggested Procedure for Development of Spill Prevention Control and Countermeasure Plans, (2) API Recommended Practice 52, "Land Drilling Practices for Protection of the Environment"; (3) NFPA 30, "Flammable and Combustible Liquids Code"; and, (4) BOCA, "National Fire Prevention Code."

INDUSTRY STANDARDS REFERENCES BY SECTION (Cont'd):

Section 112.10(d) - blowout prevention (BOP).

Industry standards. Industry standards that may assist an owner or operator with blowout prevention assembly include: (1) API Recommended Practice 16E, "Design of Control Systems for Drilling Well Control Equipment"; (2) API Recommended Practice 53, "Blowout Prevention Equipment Systems for Drilling Operations"; (3) API Specification 16A, "Drill Through Equipment"; and, (4) API Specification 16D, "Control Systems for Drilling Well Control Equipment."

Section 112.11(k) - proposed as §112.11(l) - blowout prevention.

Industry standards. Industry standards that may assist an owner or operator with offshore blowout prevention assembly and well control systems include: (1) API Recommended Practice 16E, "Design of Control Systems for Drilling Well Control Equipment"; (2) API Recommended Practice 53, "Blowout Prevention Equipment Systems for Drilling Operations"; (3) API Specification 16A, "Drill Through Equipment"; (4) API Specification 16C, "Choke and Kill Systems"; and, (5) API Specification 16D, "Control Systems for Drilling Well Control Equipment."

Exhibit D
Criteria for Contingency Plan Development

40 *CFR* §109.5 - DEVELOPMENT AND IMPLEMENTATION CRITERIA FOR CONTINGENCY PLANS

(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 (This could be provided in Appendix A of the SPCC template).

(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 (This could be provided in Appendix A of the SPCC template).

(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 (Section 1.8).

(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 (Section 1.8).

(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated (Section 1.8).

(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 (Section 1.8 or this could be provided in Appendix A of the SPCC template).

(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 (Section 1.8 or this could be provided in Appendix A of the SPCC template).

(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 (Section 1.1).

(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations (Section 1.8).

(4) Provisions for varying degrees of response efforts depending on the severity of the oil discharge (Section 1.8).

(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 (Section 1.8).

(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided by the State and local statutes and ordinances.

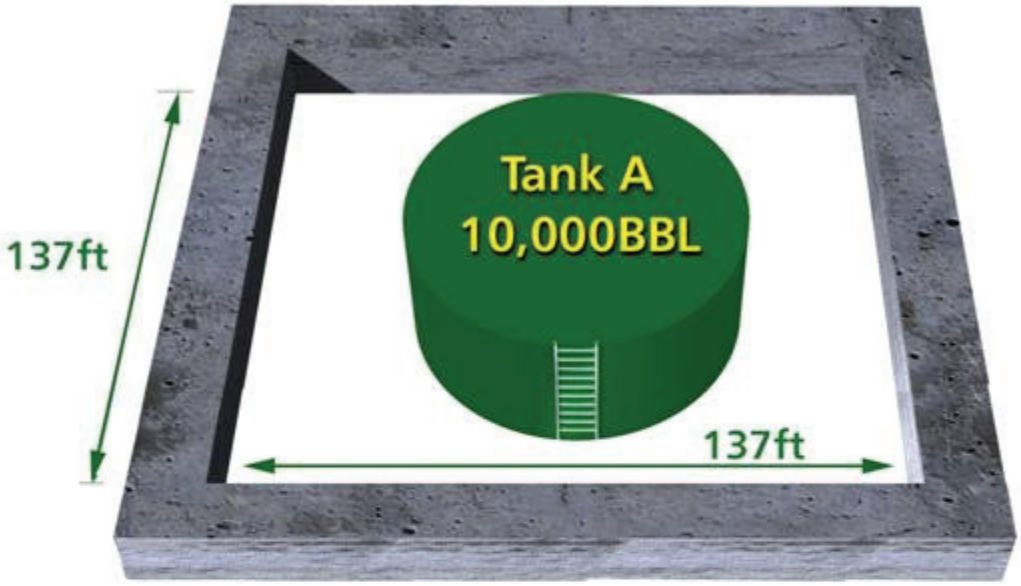
Exhibit E
Secondary Containment Analysis

This secondary containment analysis is presented in order to demonstrate several critical factors to take into consideration when calculating the capacity of a containment area to contain the contents of a release of the largest tank within the area. These factors include the consideration for displacement by other tanks in the containment area, intermediate berms, the inner slope of earthen berm walls, piping, pipe supports, appurtenances, irregularity of the containment floor, sumps or other displacements. For these examples, a recommended containment volume of 110% of the largest container, with consideration given for the displacement volume of any other containers in a common containment area, is utilized. However, certain situations may warrant a greater rainfall allowance such as more stringent state and/or local requirements. In any case, the PE should use his/her discretion in determining what is adequate freeboard for the facility.

The container volume used to calculate the containment requirements should be the shell capacity (as defined in 2A.1 and Exhibit F).

This analysis provides an example of a simplistic, field based, approach of calculating the containment volume for several types of containment areas (one concrete area with a single tank and one earthen area with multiple tanks). Other methods can be used.

Refer to Guidance 2A.1, 2B.1, 2C.1 or 2D.1 for additional details on secondary containment.


Tank A
10,000BBL
137ft
137ft


Rainfall
Tank A
10,000BBL
137ft

Given Data and Basic Assumptions

Tank Data

- Tank Size = 60 ft diameter x 20 ft height
- Calculated Capacity = 10,066 Bbl
- Design Capacity = 10,000 Bbl (for simplicity/demonstration purposes, this tank is assumed to have 66 bbls of fixed internal displacement)

Containment Area Data

- Construction is vertical concrete walls and level plane concrete floor
- Interior wall dimensions = 137 ft (length) x 137 ft (width) ----- (from field survey)
- Minimum wall height = 3.3 ft ---- (from field survey)

Calculated Data

Calculated Containment Area and Gross Containment Volume

- Since the Containment Walls are vertical; Containment Area = Length(ft) x Width(ft).
- Therefore, Containment Area = 137 ft x 137 ft = 18,769 ft^2
- **Gross Containment Volume = Containment Area (ft^2) x Wall Height (ft)**
- Therefore, Gross Containment Volume = 18,769 ft^2 x 3.3 ft = 61,938 ft^3
- Converting to gallons = 61,938 ft^3 x 7.48 gal/ft^3 = 463,294 gal
- Converting to barrels = 463,294 gal ÷ 42 gal/Bbl = **11,030 Bbl**

Net Containment Volume

- **Net Containment Volume = Gross Containment Volume – Other Tank Displacement Volume** = 11,030 Bbl - 0 Bbl = **11,030 Bbl**

Final Analysis

% Containment Calculations

- The final analysis requires the determination of adequate Net Containment Volume to contain the Capacity of the Largest Tank plus “sufficient freeboard for precipitation”.
- Restating the given and calculated data for this example; Tank Volume = 10,000 Bbl; Gross Containment Volume = 11,030 Bbl; Net Containment Volume = 11,030 Bbl.
- **% Containment = Net Containment Volume ÷ Tank Volume x 100** = 11,030 Bbl ÷ 10,000 Bbl x 100 = **110%**.


350ft
475ft
342.8ft
467.8ft
Tank 3
47,000BBL
Tank 6
20,000BBL
Tank 2
55,000BBL
Tank 5
20,000BBL
Tank 1
80,000BBL
Tank 4
35,000BBL
Tank 1
80,000BBL
Tank 4
35,000BBL

Tank Data

- Tank 1
  - Dimensions = 120 ft diameter x 40 ft height
  - Calculated tank volume = 80,568 Bbl [(pi x diameter^2 ÷ 4) x 40 x 7.48 ÷ 42]
  - Design Capacity = 80,000 Bbls (secured from mfg data*)
- Tank 2
  - Dimensions = 100 ft diameter x 40 ft height
  - Calculated tank volume = 55,950 Bbl [(pi x diameter^2 ÷ 4) x 40 x 7.48 ÷ 42]
  - Design Capacity = 55,500 Bbls (secured from mfg data*)
- Tank 3
  - Dimensions = 100 ft diameter x 34 ft height
  - Calculated tank volume = 47,558 Bbl [(pi x diameter^2 ÷ 4) x 34 x 7.48 ÷ 42]
  - Design Capacity = 47,000 Bbls (secured from mfg data*)
- Tank 4
  - Dimensions = 74 ft diameter x 46 ft height
  - Calculated tank volume = 35,234 Bbl [(pi x diameter^2 ÷ 4) x 46 x 7.48 ÷ 42]
  - Design Capacity = 35,000 Bbls (secured from mfg data*)
- Tank 5
  - Dimensions = 60 ft diameter x 40 ft height
  - Calculated tank volume = 20,142 Bbl [(pi x diameter^2 ÷ 4) x 40 x 7.48 ÷ 42]
  - Design Capacity = 20,000 Bbls (secured from mfg data*)
- Tank 6
  - Dimensions = 60 ft diameter x 40 ft height
  - Calculated tank volume = 20,142 Bbl [(pi x diameter^2 ÷ 4) x 40 x 7.48 ÷ 42]
  - Design Capacity = 20,000 Bbls (secured from mfg data*)

  - * **Note** For simplicity/demonstration purposes, tanks in this example are assumed to have designed overflows or other fixed internal displacements limiting tank volumes to the stated design capacity.

Containment Area Data

- In this example construction is earthen berm walls with earthen floor. The following assumptions are made in this example to facilitate the demonstration of containment volume analysis.

  - Assumption 1: The earthen bermed walls are constructed with 45 degree angle sloped inner walls. The final analysis must take into consideration the containment displacement contributed by the sloped inner walls. The assumption of a 45 degree angled wall will provide the data required to determine this displacement volume.

  - Assumption 2: The containment height is taken at the lowest point in the wall. This could be at a point of erosion, a drive over, a walk over, pipe trench, etc.

  - Assumption 3: The floor of the containment area is located upon level plane topography.

- Interior wall dimensions = 475 ft (length) x 350 ft (width) ----- (from field survey)

- Minimum wall height = 3.60 ft ---- (from field survey)

Calculated Tank Data

- In this example, the tank Footprint is the footprint (area of all tank bottoms except for the largest tank) of all tanks which would be contributing to containment displacement in the event that the largest tank releases its entire contents into the containment area. Once this cumulative footprint has been determined, it will be multiplied by the containment wall height to calculate the displacement volume of the contributing tanks. The largest tank in the containment area does not contribute to this displacement footprint or the subsequent tank displacement volume, spilled product from the total loss of the contents of this largest tank will continue to occupy the space currently occupied by the tank and the product volume inside the tank up to the height of the containment wall.

- Therefore, **Footprint of Contributing Tanks = Sum of the areas of all tank bottoms except for that of the largest tank**, as follows:

    - Tank 1 Footprint = This is the largest tank in this example; therefore footprint contribution is zero.

    - Tank 2 Footprint = pi x (100 ft diameter)^2/4 = 7,854 ft^2

    - Tank 3 Footprint = pi x (100 ft diameter)^2/4 = 7,854 ft^2

    - Tank 4 Footprint = pi x (74 ft diameter)^2/4 = 4,301 ft^2

    - Tank 5 Footprint = pi x (60 ft diameter)^2/4 = 2,827 ft^2

    - Tank 6 Footprint = pi x (60 ft diameter)^2/4 = 2,827 ft^2

    - Sum of all contributing tank footprints (Tanks 2, 3, 4, 5, & 6) = 25,664 ft^2

    - **Total Tank Footprint Displacement Volume** = (25,664 ft^2 x 3.60 ft) = **92,390 ft^3**

    - Converting to gal = 92,390 ft^3 x 7.48 gal/ft^3 = 691,080 gal

    - Converting to Bbl = 691,080 gal ÷ 42 gal/Bbl = **16,454 Bbl**

Calculated Containment Area and Gross Containment Volume

- Since the Containment Walls are sloped earthen walls, the Containment Volume will be calculated using the equation for the volume of a 3-D Trapezoid:

$$\frac{1}{3}\ h\ (A + a\ + \sqrt{Aa}\ )$$

Where A = Area of top inner wall ring (ft^2) = L x W
a = Area of bottom (toe) inner wall ring (ft^2) = l x w
h = Lowest berm height (ft)

a = 342.8 ft x 467.8 ft = 160,362 ft^2

A = 350 ft x 475 ft = 166,250 ft^2

h = 3.60 ft

$$V = \frac{1}{3} h\ (A+a + \sqrt{Aa})$$

$$= \frac{1}{3}\ (3.6\ ft)\ [166{,}250ft^2 + 160{,}362ft^2 + \sqrt{(166{,}250)(160{,}362)}\ ]$$

$$= 587{,}869\ ft^3$$

- Converting to gallons = 587,869 ft^3 x 7.48 gal/ft^3 = 4,397,260 gal
- Converting to barrels = 4,397,260 gal ÷ 42 gal/Bbl = **104,697 Bbl**

Net Containment Volume

- **Net Containment Volume = Gross Containment Volume – Net Tank Displacement Volume**.
- Therefore, **Net Containment Volume** = 104,697 Bbl – 16,454 Bbl = **88,243 Bbl**

Final Analysis

% Containment Calculations

- The final analysis requires the determination of adequate Net Containment Volume to contain the Capacity of the Largest Tank plus "sufficient freeboard for precipitation".
- Restating the given and calculated data for this example; Tank Volume = 80,000 Bbl; Gross Containment Volume = 104,697; Net Containment Volume (after reducing for the earthen inner dike walls and tank footprints) = 88,243 Bbl.
- **% Containment = Net Containment Volume (which is the Gross Containment Volume less other tank displacements and engineering allowances) ÷ Largest Tank Volume** = [88,243 Bbl ÷ 80,000 Bbl x 100] = **110%**.

Exhibit F

(from *API Standard 650: Welded Tanks for Oil Storage, eleventh edition, addendum 2,* American Petroleum Institute, Washington, DC, November 2009, Section 5.2.6, Figure 5-4, page 5-7.)

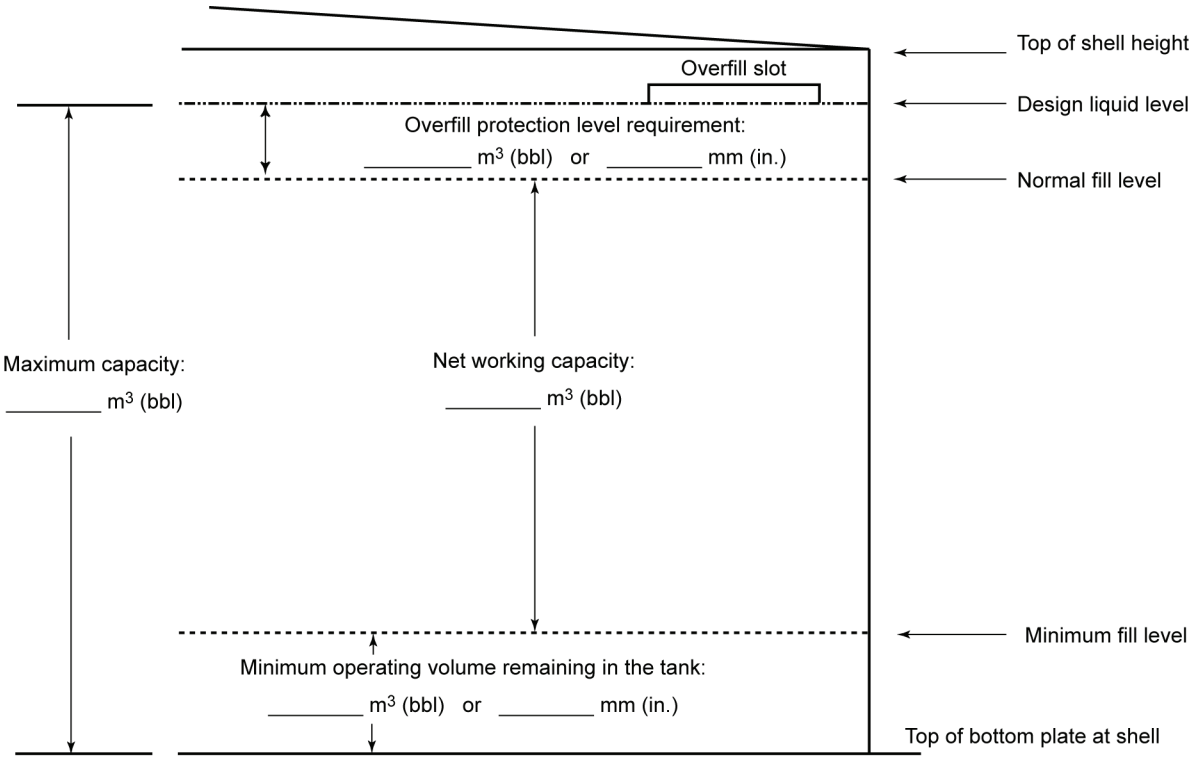


Figure 5-4 – Storage Tank Volumes and Levels

Exhibit G

(from *API Standard 653: Tank Inspection, Repair, Alteration, and Reconstruction, fourth edition*, American Petroleum Institute, Washington, DC, April 2009, page 5-2.)

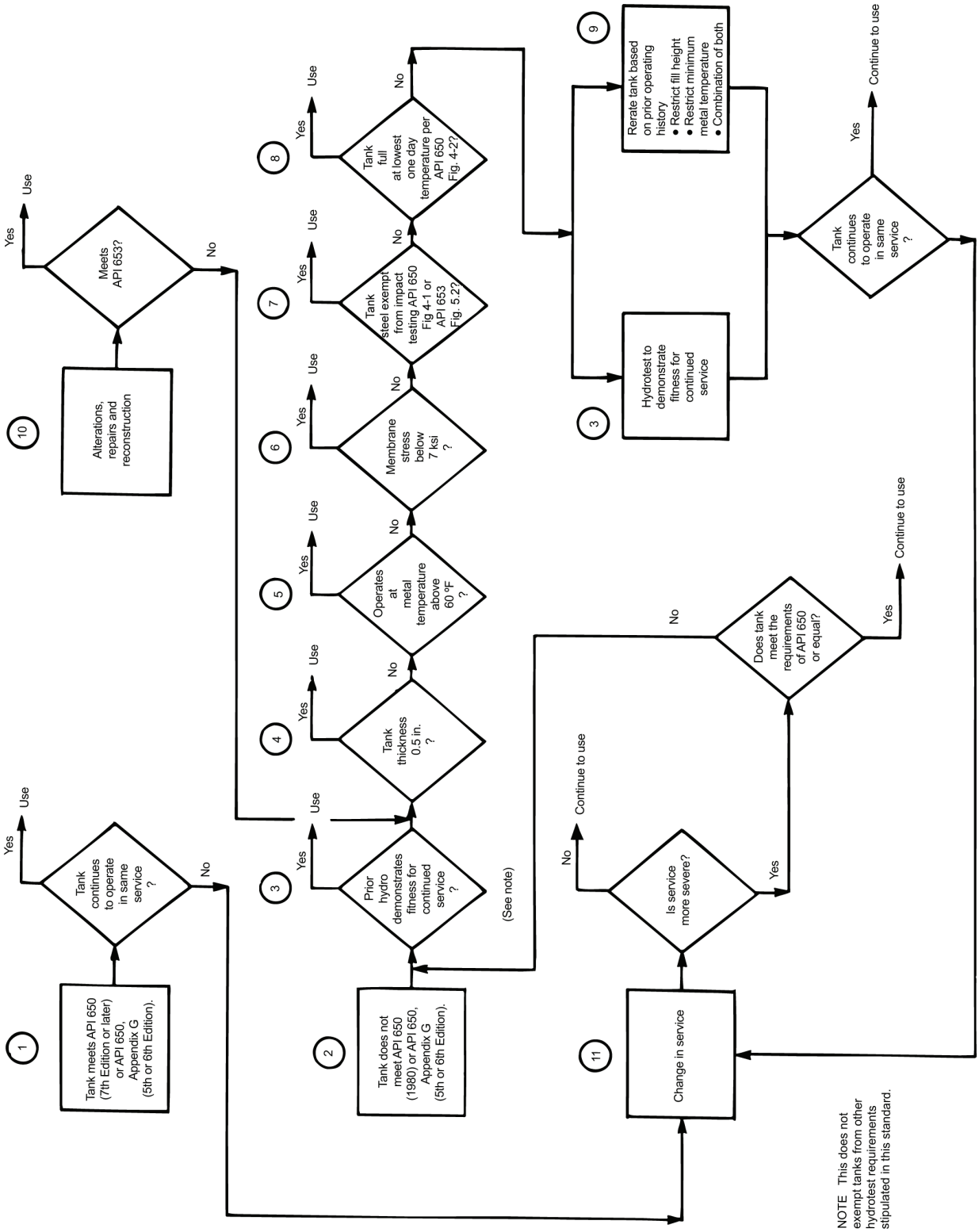


Figure 5-1 – Brittle Fracture Considerations

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