

**REGULATORY ANALYSIS  
FOR THE PROPOSED REVISIONS TO THE OIL POLLUTION  
PREVENTION REGULATION  
(40 CFR PART 112)**

U. S. Environmental Protection Agency  
Office of Solid Waste and Emergency Response  
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## 1.0 Introduction

The Environmental Protection Agency (EPA or the Agency) is today proposing to amend the Spill Prevention, Control, and Countermeasure (SPCC) Plan requirements to reduce the regulatory burden for certain facilities by: providing an option that would allow owner/operators of facilities that store less than 10,000 gallons of oil and meet other qualifying criteria to self-certify their SPCC Plans, in lieu of review and certification by a Professional Engineer; providing an alternative to the secondary containment requirement, without requiring a determination of impracticability, for facilities that have certain types of oil-filled operational equipment; defining and providing an exemption for motive power containers; and exempting airport mobile refuelers from the specifically sized secondary containment requirements for bulk storage containers. In addition, the Agency also proposes to remove and reserve certain SPCC requirements for animal fats and vegetable oils; and proposes a separate extension of the compliance dates for farms. The purpose of the rulemaking is to provide streamlined alternative methods for compliance with oil spill prevention requirements for these entities and to improve net social welfare by reducing the social costs of regulation without significant increase in risk of environmental damage.

The purpose of this analysis is to estimate the reduction in regulatory compliance costs and to qualify the benefits of the proposed rule. EPA requests comments from the public on the costs and benefits of the proposed regulatory changes and alternative options discussed in this proposed rulemaking and the method used to assess them.

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether a regulatory action is “significant” and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The order defines “significant regulatory action” as one that is likely to result in a rule that may:

- (1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- (4) raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

Under the terms of Executive Order 12866, this action has been judged as a “significant regulatory action” because it will have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities. The action was submitted to OMB for review and the Agency prepared this regulatory analysis in support of the proposed requirements.

The remainder of Section 1 provides background information on the Oil Pollution Prevention regulation, identifies the statutory authority for the regulation, summarizes the proposed regulatory changes, and describes the organization of this report.

## 1.1 Regulatory Background

The Oil Pollution Prevention regulation, at 40 CFR part 112, outlines requirements for prevention of, preparedness for, and response to oil spills. The changes and adjustments considered in this proposed rulemaking would affect the prevention aspect of this regulation, also known as the Spill Prevention, Control, and Countermeasure (SPCC) regulation. The SPCC regulation was originally promulgated on December 11, 1973, at 38 FR 34164, under the authority of section 311(j)(1)(C) of the Clean Water Act (CWA or the Act). The current SPCC regulation establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities with aboveground oil storage capacity greater than 1,320 gallons, or with buried underground oil storage capacity greater than 42,000 gallons. Regulated facilities are also limited to those that, because of their location, could reasonably be expected to discharge oil into the navigable waters of the United States or adjoining shorelines.

The SPCC rule has been amended a number of times since its initial promulgation. On October 22, 1991, the Agency proposed revisions to the SPCC rule.<sup>1</sup> The proposed revisions involved changes in the applicability of the regulation and the required procedures for the completion of SPCC Plans, as well as the addition of a facility notification provision. The proposed rule also reflected changes in the jurisdiction of section 311 of the CWA made by amendments to the Act in 1977 and 1978. On February 17, 1993, the Agency proposed other clarifications and technical changes to the SPCC rule.<sup>2</sup> This second set of proposed changes involved a requirement for Plan submission if an owner or operator invokes a waiver to certain technical requirements of the SPCC rule; provisions for Regional Administrators to require amendments to an SPCC Plan and to require a Plan from an otherwise exempt facility when necessary to achieve the goals of the CWA; and training and methods of evaluating containers for protection against brittle fracture. On December 2, 1997, the Agency proposed further changes to the SPCC rule.<sup>3</sup> The proposed changes were intended to reduce the information collection burden of the rule without creating an adverse impact on public health or the environment. In 2002, EPA published final revisions to the SPCC rule which incorporated many of the proposed amendments in the 1991, 1993, and 1997 proposals. The 2002 final rule also included other changes such as exempting certain completely buried underground tanks and wastewater treatment facilities, and establishing a single 1,320-gallon aboveground storage capacity threshold (eliminated the provision that requires a facility having an aboveground tank greater than 660 gallons to prepare an SPCC Plan). Since then, EPA twice extended the compliance deadlines by eighteen months to provide additional time for the regulated

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<sup>1</sup> 56 FR 54612.

<sup>2</sup> 58 FR 8824.

<sup>3</sup> 62 FR 63812.

community to prepare and implement SPCC Plans, and to alleviate the need for individual extension requests.

## 1.2 Statutory Authority

Section 311(j)(1)(C) of the CWA authorizes the President to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil from vessels and facilities and to contain such discharges.<sup>4</sup> By section 2(b)(1) of Executive Order 12777, the President delegated the authority to regulate non-transportation-related onshore facilities under section 311(j)(1)(C) of the Act to EPA.<sup>5</sup> By this same Executive Order the President delegated authority over transportation-related onshore facilities, deepwater ports, and vessels to the U.S. Department of Transportation (DOT), and authority over other offshore facilities, including associated pipelines, to the U.S. Department of the Interior (DOI). A subsequent Memorandum of Understanding (MOU), published July 1, 1994 (59 FR 34102), among EPA, DOT, and DOI, reallocated the responsibility for non-transportation-related offshore facilities that are landward of the coast line to EPA. An earlier MOU between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971 (36 FR 24080), established the definitions of non-transportation-related facilities and transportation-related facilities.

## 1.3 Proposed Changes to the Rule

EPA proposes the following amendments the SPCC Plan requirements, found at 40 CFR part 112, to reduce the regulatory burden:

- *Qualified Facilities.* EPA proposes to provide streamlined requirements for facilities that meet a set of specified qualifying criteria. Owners and operators of qualified facilities would have the option to self-certify that their SPCC Plan complies with 40 CFR part 112, in lieu of having a Professional Engineer (PE) review and certify their Plan. EPA proposes that an SPCC-regulated facility must meet the following criteria to qualify for this reduced burden option: (1) total facility oil storage capacity of 10,000 gallons or less; and (2) no reportable discharge of oil during the ten years prior to self-certification or since becoming subject to SPCC requirements if the facility has been in operation for less than ten years. Owners and operators of qualified facilities choosing this option may not deviate from any requirement of the SPCC rule under §112.7(a)(2) and may not make impracticability determinations as described under §112.7(d), although flexibility for the security requirements and container integrity testing would be available.
- *Facilities with Qualified Oil-filled Operational Equipment.* EPA proposes to provide owners and operators of facilities with certain types of oil-filled operational equipment the option of preparing an oil spill contingency plan and a written commitment of manpower, equipment, and materials in lieu of providing secondary containment for qualified oil-filled operational equipment, without making an individual impracticability determination as

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<sup>4</sup> 33 U.S.C. 1321(j)(1)(C).

<sup>5</sup> 56 FR 54757 (October 22, 1991), superseding Executive Order 11735, 38 FR 21243.

required in §112.7(d). EPA is proposing to eliminate the current requirement for an individual impracticability determination for oil-filled operational equipment at a facility that has had no discharges as described in §112.1(b) from any oil-filled operational equipment during the ten years prior to the Plan certification date or, since becoming subject to the SPCC requirements if the facility has been in operation for less than ten years.

- *Facilities with Certain Types of Motive Power Containers.* EPA proposes to provide an exemption for certain vehicle bulk fuel tanks and any ancillary on-board oil-filled operational equipment. EPA is proposing to amend the SPCC rule applicability criteria to exempt certain “motive power containers,” which means any onboard bulk storage containers used solely to power the movement of a motor vehicle (i.e., fuel tanks), or ancillary onboard oil-filled operational equipment used solely to facilitate its operation (i.e., hydraulic and lubrication operational oil-filled containers). This exemption would not apply to oil drilling or workover equipment, or to transfers of fuel or other oil into motive power containers at an otherwise regulated facility, or to a bulk storage container mounted on a vehicle and used for any purpose other than powering the vehicle itself (e.g., a tanker truck or refueler).
- *Airport Facilities with Mobile Refuelers.* EPA proposes to exempt airport mobile refuelers from the specifically sized bulk storage secondary containment requirements of §112.8(c)(2) and (11). Airport mobile refuelers are vehicles with an onboard bulk storage container designed or used to store and transport fuel for transfer into or from aircraft or ground service equipment. The general secondary containment requirements of §112.7(c) would still apply to the onboard bulk storage containers on airport mobile refuelers and to the transfers associated with this equipment.
- *Facilities that Handle, Store, or Transport Animal Fats and Vegetable Oils (AFVO).* EPA proposes to remove and reserve certain provisions related to AFVO facilities because these provisions do not apply. These provisions were included in the July 2002 revisions to the SPCC rule because the Agency had not proposed separate SPCC requirements for animal fats and vegetable oils for public notice and comment. As a result, the current requirements for petroleum oils were also applied to animal fats and vegetable oils.
- *Farms.* Additionally, EPA proposes to extend the compliance dates for farms with oil storage capacity under 10,000 gallons while the Agency considers whether this sector warrants differentiated requirements under the SPCC rule. The EPA proposes to define a farm in §112.2 as “a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during a year.”

## 1.4 Organization of this Report

The regulatory analysis quantifies changes in regulatory compliance costs for affected facility owners and operators. In addition, EPA examined the potential impacts of the regulatory options on small businesses and oil discharge risk. The remainder of this report is organized as follows:

- Section 2 presents the methodology used by EPA to estimate changes in unit compliance costs for the proposed actions;
- Section 3 describes the universe of affected facilities;
- Section 4 discusses the estimated changes in unit compliance costs of the proposed actions;
- Section 5 analyzes the impacts of the proposed regulatory changes on qualified facilities;
- Section 6 analyzes the impacts of the proposed regulatory changes on facilities with qualified oil-filled operational equipment;
- Section 7 analyzes the impacts of the proposed regulatory changes on facilities with motive power containers;
- Section 8 analyzes the impacts of the proposed regulatory changes on airport facilities with mobile refuelers;
- Section 9 describes the projected impacts of the proposed actions on human health, welfare, and the environment;
- Section 10 presents a summary of the impacts of this proposed rulemaking on small businesses;
- Section 11 discusses key limitations of the analysis;
- Section 12 presents conclusions of the analysis; and
- Appendix I presents an alternative economic impact analysis.

## **2.0 Methodology**

This section presents the methodology used to estimate the economic effects of the proposed rulemaking. Section 2.1 outlines the major steps of the analysis, and Section 2.2 describes the regulatory and economic baseline for the analysis.

### **2.1 General Approach**

In this analysis, EPA estimated the reduction in regulatory unit compliance costs to owners and operators of facilities affected by each of the four major components of the proposed rule:

- Qualified facilities with smaller storage capacities;
- Facilities with certain types of oil-filled operational equipment;
- Facilities with motive power containers.
- Facilities with airport mobile refuelers.

Additionally, EPA estimated the total reduction in regulatory compliance costs across all facilities affected by each of the three major components. The benefits of the major components of the proposed rule were assessed qualitatively and are limited to reductions in social costs accruing from lower compliance costs.

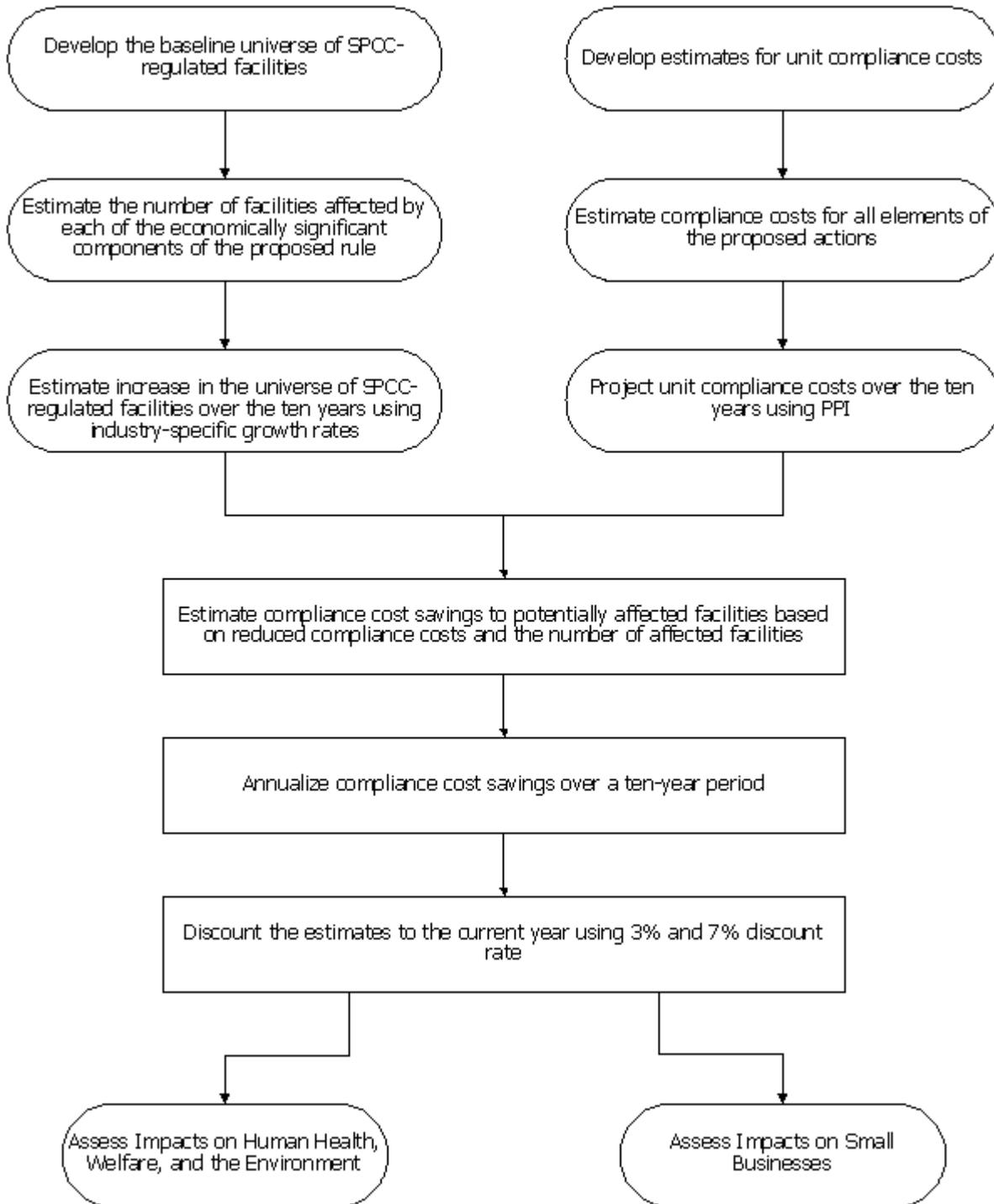
The Agency also assessed the impacts of alternative regulatory options it considered for qualified facilities and facilities with qualified oil-filled operational equipment. The Agency did not analyze cost savings associated with non-substantive changes to requirements for facilities that handle, store, or transport fats and vegetable oils or the proposed extension of the compliance dates for farms.

The Agency considered the potential impacts of the proposed rule and alternative options on the risk of oil discharges, which could lead to harmful environmental, human health, and welfare consequences. Because of the lack of data on regulated entities and their likely response to the regulatory options, the magnitude of such risks is highly uncertain but likely to be low because of the safeguards built into the proposal. In addition, to the extent that the rule increases the compliance rate by lowering compliance costs, the proposal will have a positive impact on environmental quality. Therefore, EPA examined only the general nature of the proposed rule and alternative options to assess their possible effects on risk. EPA does not expect this rule to cause any significant increase in risks. Conclusions about these environmental costs are explained in Section 8.

Exhibit 2-1 provides an overview of the main steps used to estimate the compliance cost impacts of the proposed rule.

**Exhibit 2-1**

**Main Steps for Estimating the Economic Effects of the Proposed Rule Changes**



## 2.2 Baseline for the Analysis

The impacts of the proposed regulation depend on the assumed baseline of industry behavior in the absence of a new rulemaking. For the regulatory analysis, EPA developed a baseline to assess the change in compliance costs associated with each of the proposed actions, mutually exclusive of each other. Changes in regulatory behavior caused by the proposed actions are measured relative to this baseline.

EPA is aware of industry concerns regarding potential non-compliance among certain facility sizes or sectors, although no reliable empirical evidence exists to assess the extent and magnitude of such non-compliance. EPA explicitly considered whether to incorporate non-compliance in the 2002 Economic Analysis of the SPCC rule:

“It is possible that some facilities have misinterpreted the existing regulation and are not currently in full compliance with existing requirements, but there is no practical way to measure the level of non-compliance. Moreover, ...the costs of coming into compliance with the clarified requirements are not properly attributed to this final regulation.”

EPA used as its baseline the SPCC rule requirements under 40 CFR part 112, as amended in 2002 (67 FR 47042). The proposed rule does not affect facilities that are not already required to meet the standards of the SPCC rule. For the benefit-cost analysis, therefore, EPA is treating these costs as liabilities the regulated entities currently have – whether or not they have actually made the capital expenditures to comply. In this analytical construct, these firms are simply delaying the expenditures for the costs they already carry. Therefore, EPA used as its baseline the requirements under 40 CFR part 112 (“SPCC rule”), as amended in 2002 (67 FR 47042). EPA does recognize, however, that there is non-compliance with the SPCC requirements by some portion of the regulated community.

The benefit-cost analysis presented here accounts for the reductions in social costs resulting from this rule. EPA recognizes, however, that actual changes in expenditures depend on the degree of compliance with SPCC requirements by the facilities that would be affected by this proposal. Existing facilities that are out of compliance with the current rule would potentially face lower expenditures to comply with the proposed rule. To better understand the impacts on these facilities, EPA prepared an alternative economic impact analysis for this rulemaking (see Appendix I).

## **3.0 Description of SPCC-Regulated Universe**

This section describes the universe of facilities subject to current and proposed SPCC regulations. Estimating the number of regulated entities is not straightforward. The SPCC rule does not include a notification requirement and, with certain exceptions, owners and operators do not submit their SPCC Plans to EPA. The Agency has invested considerable resources into estimating the number of entities affected by the SPCC rule.

### **3.1 Previously Developed Estimates**

In 1991, EPA published the “Spill Prevention, Control, and Countermeasures Facilities Study,” which summarized information on small, medium, and large facilities in 16 industry sectors that store oil aboveground and underground. For each of these sectors, EPA collected and evaluated data from ten states on medium and large facilities. Information on small facilities came from New York. In the end, the 1991 study estimated the number of facilities based on extrapolation of data from four state databases (Illinois, California, Maryland, and New York) to the nation.

In 1995, EPA conducted a survey of approximately 30,000 facilities in the industries covered by the 1991 study. The 1995 survey yielded detailed information about the oil storage characteristics of the surveyed facilities, and was designed to allow statistical extrapolation to a broader universe. EPA compared the results of the 1995 survey to the 1991 facility study and to a 1989 American Petroleum Institute report and calculated a 1996 Adjusted National Estimate, which has been the basis of EPA's approximation of the number of facilities regulated by the SPCC Program.<sup>6</sup>

### **3.2 Estimation Methodology**

Since 2004, EPA has evaluated recent data on SPCC-regulated facilities and updated its estimates. Since data were not available for all states, the basic estimation procedure involved extrapolating from eight state databases using information from the U.S. Census Bureau. The estimates of the SPCC universe were developed for 31 industry sectors (see Exhibit 3-1).

#### **3.2.1 Basic Estimation Methodology**

For many industry sectors affected by the SPCC rule, the basic estimation methodology used to update the regulated universe estimates is similar to that used in the 1991 facilities study. EPA used eight primary state databases (Florida, Kansas, Maryland, Minnesota, New York, Oklahoma, Virginia, and Wisconsin) to determine the number of SPCC-regulated facilities in the state for each industry sector for the following capacity tiers:<sup>7</sup>

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<sup>6</sup> Analysis of the Number of Facilities Regulated by EPA's SPCC Program [http://www.epa.gov/oilspill/pdfs/pap\\_tpop.pdf](http://www.epa.gov/oilspill/pdfs/pap_tpop.pdf).

<sup>7</sup> Data from Illinois were not used in the current estimates because the latest version of the Illinois database did not include capacity information for two-thirds of the records, which is critical to estimating the universe of SPCC-regulated facilities. The California database was not used because it had missing capacity information for one-fifth of the records, and the Aboveground Storage Tanks (ASTs) and Underground Storage Tanks (USTs) were not differentiated.

- Category I – total oil storage capacity from 1,320 gallons to 10,000 gallons,
- Category II – total oil storage capacity from 10,001 gallons to 42,000 gallons,
- Category III – total oil storage capacity of 42,001 gallons to 1,000,000 gallons, and
- Category IV – total oil storage capacity of greater than 1,000,000 gallons.

To assign industry sectors, the information in state databases was matched with the Dun & Bradstreet (D&B) Market Spectrum database.<sup>8</sup> To extrapolate the estimates to the entire country, these values were multiplied by a facility ratio. EPA computed this ratio for all the capacity tiers except Category I facilities by dividing the total number of facilities in United States in the industry sector by the total number of facilities in the eight states. Specifically, the Agency calculated the total number of SPCC-regulated facilities in the eight states and multiplied that number by the facility ratios (i.e., the total number of U.S. facilities in each industry sector divided by the total number of facilities in these states).<sup>9</sup> Because the Maryland database did not include information on Category I facilities, the ratio for Category I facilities was calculated using the remaining seven state databases.

In the 1991 facilities study, the estimate for the smallest facilities was calculated separately for most industry sectors using the New York Major Facilities database, because this database had a good representation of such facilities. The 1991 study could not use this database for estimating the overall universe because there were no industry sectors provided in the database. For EPA's current estimates, EPA was able to obtain industry sector information from the D&B database, and used the New York database to estimate the number of SPCC-regulated facilities across all capacity tiers.

### 3.2.2 Industry-Specific Estimation Methodology

A different estimation approach was used for industry sectors for which the Agency had federal or proprietary data. Specifically, EPA used sources other than state databases to estimate the number of potentially SPCC-regulated facilities in the following industries: petroleum bulk stations and terminals, fuel oil dealers, pipelines, petroleum refinery and related

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<sup>8</sup> The following facilities and tanks were not considered in the estimation: facilities with less than 1,320 gallons of storage, tanks with less than 55 gallons of storage, completely buried underground tanks, tanks subject to EPA UST requirements, inactive tanks, and tanks that did not store oil substances. Not all the facilities in the state databases were matched with D&B because of resource constraints. EPA assumed that the matched facilities were representative of the SPCC regulated facilities and applied the percentage industry distribution of the matched facilities to all regulated facilities in the databases.

<sup>9</sup> When information was available from multiple states for an industry sector, the 1991 facilities study extrapolated from each of the states separately and used the mid-point as the "best estimate." EPA's current approach is equivalent to using the average ratio for all states for which EPA had data, rather than the average of the absolute numbers of facilities in a specific industry sector as was done in the 1991 study. The Agency believes that chosen approach would give a more reliable "best estimate" because the extrapolation would be based on a larger number of facilities combining data from more than one state. This approach also assumes that if there are no observations for an industry sector in the database, then there are no regulated facilities in that industry sector in the state (rather than assuming that the state database does not cover that industry sector).

industries, oil and gas production, farms, electric utilities, and manufacturing facilities handling or storing animal fats and vegetable oils.

EPA used data from the 2002 Economic Census to estimate the number of regulated facilities for the petroleum bulk stations and terminals, fuel oil dealers, pipelines, and petroleum refinery and related industries. As in previous analyses, EPA assumed that all facilities in these industries are regulated under the SPCC rule.

To estimate the number of oil production facilities, EPA used oil-well data obtained from PetroDataSource, Inc. This source maintains data on commercial wells based on federal and state data including tax records and geological surveys. All active oil wells located inland and offshore were included in the estimation. To calculate the total number of oil production facilities, the Agency assumed four wells per facility.<sup>10</sup>

In addition to the oil production facilities, gas production facilities were included in the estimate for the SPCC universe. Some gas wells have tanks for storing condensate oil that is generated as a result of the gas production process. In this analysis, the Agency assumed that all gas wells that store condensate oil exceed 1,320 gallons of storage capacity. EPA found that among the states with the largest percentage of gas wells, Texas, Oklahoma, and Louisiana have condensate oil storage at gas wells. The estimates for the number of SPCC-regulated gas production facilities were calculated based on these assumptions for the percentage of wells that store condensate oil and the number of gas wells per facility (using the total number of gas wells from the PetroDataSource database).

EPA estimated the number of farms by using Census of Agriculture data on production expenses related to petroleum-related purchases from 2002 and 1997 and on diesel storage data from 1982. In the 2002 Census of Agriculture, the expenditure data were available only in aggregate for all fuels. To arrive at the expenditure on diesel (gasoline) in 2002, the total expenditure on fuels in 2002 were multiplied against the ratio of diesel (gasoline) expenditure to total expenditure from the 1997 data. This methodology assumes that the percentage of diesel (gasoline) expenditure has remained the same from 1997 to 2002. Finally, the total quantity of diesel (gasoline) purchased in 2002 was calculated by dividing the expenditure on diesel (gasoline) by diesel (gasoline) prices. Using 1982 data on fuel storage and expenditures on farms, the ratio of diesel (gasoline) storage with respect to the annual quantity of diesel (gasoline) purchased was calculated. On average approximately one-fifth of the annual quantity of diesel purchased and about one fourth of the annual quantity of gasoline purchased was found to be stored on farms. Since there were no data available on the type of storage – aboveground or underground – it was assumed that the entire storage was aboveground. The expenditure ranges were converted to capacity ranges and assigned to a percentage of farms that are regulated within the capacity ranges.

EPA calculated the number of SPCC-regulated electric utility plants as a combination of the number of substations and the number of power plants in the United States. The Agency

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<sup>10</sup> The assumption is based on expert opinions from Richard Franklin, a Federal On-Scene Coordinator for EPA Region 6 (02/14/2005), and Mark England, Texas Railroad Commission (05/20/2005), personal communications.

assumed that all electricity generation facilities and substations contain enough oil to be subject to SPCC requirements. The number of electric utility plants was estimated based on data reported by the Energy Information Administration (EIA). The number of substations was estimated based on the number of substations listed by each major utility reporting to the Federal Energy Regulatory Commission (FERC).<sup>11</sup> A national estimate was extrapolated from these data using the ratio of the megawatt hours sold by utilities to the estimated total retail megawatt hours of electricity sold nationwide according to the EIA.

Facilities handling or storing non-petroleum oil are also subject to SPCC regulations. Non-petroleum oil includes animal fats and oils and greases, or fish and marine mammal oils; and, oils of vegetable origin, including oils from seeds, nuts, fruits, and kernels. To estimate the number of facilities that produce and store animal fat and vegetable oil (AFVO), EPA divided industries in three categories: (1) industries that use AFVO as a primary input, (2) industries that use AFVO in moderate amounts, and (3) industries that use AFVO as a minor component of their input.

EPA assumed that all the facilities in the AFVO production industry are subject to SPCC regulations (Category I). The contacted facilities claimed that AFVO is their primary product and they store enough oil to be subject to SPCC. Based on conversations with interviewed facilities, EPA assumed that 20 percent to 90 percent of facilities in the industries involved in vegetable oil processing and refining, animal carcass rendering, and food products (Category II) store enough oil to be subject to the SPCC rule. Industries such as pesticide, paint and coating, printing ink, and soap and other detergent manufacturing (Category III) use vegetable oil as an alternative to their conventional inputs. To account for facilities that use AFVO as a small component of their input, the Agency assumed that 1 percent to 10 percent of facilities in these industries store enough oil to be subject to SPCC.

### **3.3 Estimated Number of SPCC-Regulated Facilities**

In total, EPA estimates that approximately 618,000 facilities are currently regulated under the SPCC rule. Oil production facilities (28 percent), farms (25 percent) and electric utility plants (8 percent) account for most of the SPCC-regulated facilities. The number of SPCC-regulated facilities in each of the industry groups and corresponding NAICS sectors are presented in Exhibit 3-1.

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<sup>11</sup> Major regulated utilities must file FERC Form No. 1, on which utilities report information on their substations and electrical equipment. "Major" is defined as having (1) one million megawatt hours or more; (2) 100 megawatt hours of annual sales for resale; (3) 500 megawatt hours of annual power exchange delivered; or (4) 500 megawatt hours of annual wheeling for others (deliveries plus losses).

**Exhibit 3-1**  
**Number of SPCC-Regulated Facilities by Industry Group and Corresponding NAICS Codes**

#	Industry Sector	NAICS	Under 5,000 gal	Category I	Category II	Category III	Category IV	Total	Percentage
1	Oil Production	211111	2,749	21,995	118,531	31,160	305	171,992	27.8%
2	Farms	111, 112	127,870	144,608	7,056	569	114	152,347	24.6%
3	Electric Utility Plants	2211	9,702	19,403	19,528	12,879	309	52,120	8.43%
4	Gas Production	211111	657	5,254	28,313	7,443	73	41,083	6.65%
5	Petroleum Refining and Related Industries	324	85	85	212	1,271	424	1,992	0.32%
6	Chemical Mfg	325	636	1,063	941	575	26	2,604	0.42%
7	Food Mfg	311, 312	814	1,676	1,312	510	23	3,520	0.57%
8	Manufacturing facilities using and storing AFVO <sup>1</sup>	311, 325	2,161	2,609	3,433	1,581	0	7,623	1.23%
9	Metal Mfg	331, 332	364	1,635	712	398	0	2,744	0.44%
10	Other Mfg <sup>2</sup>	31-33	5,514	9,020	5,252	1,599	107	15,978	2.58%
11	Real Estate Rental and Leasing	531-533	18,573	23,205	2,937	212	0	26,354	4.26%
12	Retail Trade	441-446, 448, 451-454	11,168	14,271	2,675	819	50	17,814	2.88%
13	Contract Construction	23	7,782	10,752	3,708	703	19	15,182	2.46%
14	Wholesale Trade	42	6,771	9,580	2,971	2,130	98	14,779	2.39%
15	Other Commercial	492,541, 551, 561-562	9,000	10,272	2,826	762	0	13,860	2.24%
16	Transportation	481-488	3,883	7,761	4,353	638	641	13,393	2.17%
17	Arts Entertainment & Recreation	711-713	8,895	11,197	1,215	94	0	12,505	2.02%
18	Other Services (Except Public Administration)	811-813	4,943	6,240	653	162	0	7,055	1.14%
19	Education	611	611	1,006	867	5,047	0	6,920	1.12%

#	Industry Sector	NAICS	Under 5,000 gal	Category I	Category II	Category III	Category IV	Total	Percentage
20	Petroleum Bulk Stations and Terminals	4247	329	564	846	4,369	799	6,577	1.06%
21	Hospitals & Other Health Care	621-624	3,899	5,151	1,188	194	27	6,560	1.06%
22	Accommodation and Food Services	721, 722	3,474	4,419	381	33	0	4,834	0.78%
23	Fuel Oil Dealers	45431	212	318	1,698	2,335	212	4,563	0.74%
24	Gasoline Stations	4471	898	1,950	1,225	791	40	4,005 <sup>3</sup>	0.65%
25	Information Finance and Insurance	51, 52	2,530	3,352	514	31	0	3,897	0.63%
26	Mining	212, 213	603	1,297	1,508	321	40	3,167	0.51%
27	Religious Organizations	813110	1,060	1,407	0	0	0	1,407	0.23%
28	Warehousing and Storage	493	341	725	333	306	28	1,392	0.23%
29	Military Installations	928110	39	156	156	284	114	711	0.12%
30	Pipelines	4861, 4869	704	704	0	0	0	704	0.11%
31	Government	92	-	-	552	0	0	552	0.09%
	<b>Total</b>		<b>235,656</b>	<b>321,674</b>	<b>215,896</b>	<b>77,215</b>	<b>3,448</b>	<b>618,233</b>	
	<b>Size Distribution</b>		<b>38.1%</b>	<b>52.0%</b>	<b>34.9%</b>	<b>12.5%</b>	<b>0.6%</b>	<b>100%</b>	

<sup>1</sup> Other Manufacturing includes all manufacturing facilities other than Chemical Manufacturing, Metal Manufacturing, Petroleum Refining and Related Industries, and Food Manufacturing facilities.

<sup>2</sup> Facilities in this sectors are regulated by SPCC because they may store AFVO. However, it is likely that some of these facilities are regulated because of their holding of petroleum and related oils. Since there was no way to distinguish these facilities, this amounts to some double counting.

<sup>3</sup> The estimated number of gasoline stations is lower than that used for the 2002 rule because most gas stations have underground storage tanks that are exempt from SPCC requirements.

### **3.4 Projecting SPCC Universe Using Industry Growth Rates**

To project the number of existing and new facilities regulated under the SPCC rule over the next ten years (2005 through 2014), EPA used recent estimates of industry-specific growth rates. The Agency calculated industry-specific growth rates using the change in the number of establishments reported in the 1997 and 2002 Economic Censuses for each industry. The data on the number of establishments were obtained and organized by NAICS industry codes. To calculate industry-specific growth rates, EPA linked NAICS sectors to the corresponding industry groups used in the analysis. Exhibit 3-2 provides a list of estimated growth rates for all industry groups included in the analysis.

**Exhibit 3-2**  
**Estimated Growth Rates**

Industry Group	NAICS	Growth Rate
Oil Production	211111	-1.61%
Farms	111, 112	-0.10%
Electric Utility Plants	2211	4.05%
Gas Production	211111	-1.61%
Transportation	481-488	2.41%
Other Manufacturing <sup>1</sup>	31-33	-0.76%
Contract Construction	23	1.59%
Petroleum Bulk Stations and Terminals	4247	-6.76%
Gasoline Service Stations	4471	-0.87%
Fuel Oil Dealers	45431	-2.43%
Food, Beverage, and Tobacco Manufacturing	311, 312	1.22%
Chemical Manufacturing	325	-0.48%
Metal Manufacturing	331, 332	-0.07%
Hospitals and Other Health Care	621-624	1.72%
Petroleum Refining and Related Industries	324	0.78%
Real Estate Rental and Leasing	531-533	2.32%
Mining	212-213	0.73%
Military Installations <sup>2</sup>	928110	-0.05%
Pipelines	4861, 48691	-2.80%
Retail Trade	441-446, 448, 451-454	0.03%
Wholesale Trade	42	-0.91%
Other Commercial	492, 541, 551, 561-562	4.40%
Arts, Entertainment, and Recreation	711-713	2.17%
Other Services (Except Public Administration)	811-813	0.68%
Education	611	3.80%
Religious Organizations <sup>2</sup>	813110	-0.05%
Accommodation and Food Services	721-722	0.74%
Information, Finance, and Insurance	51, 52	2.55%
Warehousing and Storage	493	14.2%
Government <sup>2</sup>	92	-0.05%
Manufacturing Industries Producing, Using, and Storing AFVO <sup>3</sup>	311, 325	0.60%

<sup>1</sup> Rate of growth is based on data for all manufacturing sectors due to a large number of various manufacturing sectors included in this category.

<sup>2</sup> Rate of growth is based on all entities due to the lack of data for specific industries in Census.

<sup>3</sup> Rate of growth is based on data for two NAICS sectors that were identified as key industries expected to produce, use, and store AFVO.

In this analysis, the Agency assumed that these rates would be constant over the ten-year analytical period, which may or may not adequately represent the trends for individual sectors. The oil production and farm sectors, in particular, are assumed to continue to decline, based on the changes observed between 1997 and 2002. Industries such as electric utilities (NAICS code 2211) and the transportation sector (NAICS codes 481-488) show positive growth rates. The estimated growth rates suggest an overall increase in the growth of the SPCC universe over the next ten years. Industry groups with a positive growth rate comprise the new facilities that will be subject to SPCC regulations as they start their business.

### 3.5 Facility Characteristics

For the purpose of this analysis, EPA estimated the number of regulated facilities for four size groups based on oil storage capacity at a facility. EPA classified facilities into capacity tiers to (1) account for differences in the potential compliance costs experienced by facilities of different sizes, and (2) determine the number of facilities affected by each of the proposed changes in the rule based on facility's storage capacity. Exhibit 3-3 summarizes the estimated number of regulated facilities, by size category.

**Exhibit 3-3  
Number of SPCC-Regulated Facilities by Size**

Category	Aggregate Capacity	Number of Facilities
I	1,320 to 10,000 gallons	321,674
II	10,001 to 42,000 gallons	215,896
III	42,001 to 1 million gallons	77,215
IV	greater than 1 million gallons	3,448
<b>Total</b>		<b>618,233</b>

All the facilities included in the analysis are further divided in two categories: production facilities (facilities whose operations and oil storage activities primarily involve oil production) and storage facilities (all other industry groups). EPA estimated that approximately 172,000 production facilities and 446,000 storage facilities are subject to SPCC requirements. The Agency developed separate estimates for the unit cost of compliance for production and storage facilities in Categories II through IV.

## 4.0 Estimated Changes in Unit Compliance Costs

EPA estimated changes in the unit compliance costs for the proposed regulatory actions by comparing the full cost of compliance with the existing regulation to the reduced cost of compliance with less stringent requirements proposed. The Agency identified individual elements of compliance activities affected by the changes in the rule and estimated the cost savings from these changes. Depending on the proposed action, facilities would save part of their compliance cost (in cases where less stringent requirements are applicable) or the entire cost of compliance (in cases when facilities are no longer regulated). This section describes compliance activities affected by the proposed actions and presents unit cost estimates and underlying assumptions for these activities.

The cost of compliance consists of the costs of reporting and recordkeeping activities required by the SPCC regulation and capital and operational costs. Major elements contributing to the cost of compliance are described in this section.

### 4.1 Recordkeeping and Reporting Activities Costs

Recordkeeping and reporting activities required by the SPCC regulation include new Plan preparation, Plan modification, and Plan maintenance.

#### 4.1.1 Recordkeeping and Reporting Activities

EPA developed unit costs estimates for the following recordkeeping and reporting compliance activities:

##### Prepare an SPCC Plan (New Facilities)

The owner or operator of a new facility must prepare and implement an SPCC Plan in accordance with the guidelines set forth in 40 CFR part 112 before beginning facility operations. The actual preparation of the Plan involves several separate tasks such as field investigations, a regulatory review, review of existing procedures, Plan preparation, and certification by a PE.

##### Review the SPCC Plan (Existing Facilities)

An owner or operator of an SPCC-regulated facility is required to review and evaluate his/her Plan at least once every five years. The review of the Plan includes site work, regulatory review, review of existing procedures, preparation of the review report, and PE certification (if needed). An owner or operator is required to amend his/her SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a discharge as described in §112.1(b) from the facility; and (2) such technology has been field-proven at the time of the review. If amended, and if the amendments result from technical changes to the facility that affect the risk of a discharge, the Plan must also be certified by a PE prior to implementation. Review cost estimates are applied to an existing facility only, since a new facility would not be required to conduct its review until five years after starting operation.

### Submit Plan in the Event of Certain Discharges of Oil

In the event of certain discharges of oil into navigable waters, a facility owner or operator must submit information described in §112.4(a) to the Regional Administrator within 60 days. A discharge of oil occurring within any 12-month period that triggers the §112.4 reporting requirements is:

- (1) A single discharge as described in §112.1(b) of more than 1,000 U.S. gallons into navigable waters; or
- (2) Two or more discharges as described in §112.1(b), each of which is over 42 gallons.

Section 112.4(c) also requires that the facility submit a copy of this information to the State agency in charge of water pollution control activities for the area in which the facility is located. The Regional Administrator may require the owner or operator of the facility to amend the SPCC Plan to prevent and contain discharges from the facility. Such amendments, if uncontested by the facility, must become part of the Plan thirty days after the Regional Administrator responds to the facility concerning the proposed amendments. The amended Plan must then be certified by a PE prior to implementation. As required by §112.4(e), amendments to the Plan must be implemented as soon as possible, but no later than six months after the amendment becomes part of the Plan. Section 112.4(f) allows a facility to appeal a decision made by the Regional Administrator requiring a Plan amendment.

### Revise the SPCC Plan

The facility owner or operator must amend his Plan in accordance with §112.5 whenever there is a change in the facility's design, construction, operation, or maintenance that materially affects the facility's potential for a discharge as described in §112.1(b). Such facility changes may include, but are not limited to: the addition of a new or rebuilt tank; a change in the service of a tank; any physical changes or improvements to the facility; or, the construction of a new well and associated piping. The amended Plan must be certified by a PE prior to implementation. Such amendments to the SPCC Plan must be prepared within six months and implemented as soon as possible, but not later than six months following preparation of the amendment.

### Maintain the SPCC Plan and Keep Records

Section 112.3(e) requires the owner or operator to maintain a copy of the SPCC Plan at the facility, if the facility is normally attended for at least four hours per day, or if not, at the nearest field office. The Plan must be available to the Regional Administrator for review during normal working hours (40 CFR 112.3(e)(2)). In addition, a facility is required to maintain (and update) Plan-specific records as outlined under §112.7(e). Recordkeeping includes written procedures and a record of inspections and tests, signed by the appropriate supervisor or inspector, maintained with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this requirement.

#### 4.1.2 PE Certification Cost

The proposed requirements for qualified facilities allows owners and operators of facilities to self-certify their SPCC Plans in lieu of certification by a PE. Therefore, both existing and new facilities may take advantage of the proposed action and save the cost of PE certification. The approach used to develop a cost estimate for PE certification and underlying assumptions are described in this section.

Some facilities are expected to incur costs associated with retaining a PE to certify their SPCC Plans, along with any subsequent technical amendments that are made to the Plan. In certifying the Plan, the PE attests to have examined the facility and that the Plan has been prepared in accordance with good engineering practices that satisfy the SPCC requirements found in 40 CFR part 112. Furthermore, whenever a facility amends its SPCC Plan, any technical amendment must be certified by a PE.

Not all facilities are expected to contract with a PE to have their Plan certified. Some facilities have in-house PEs that can perform this task. EPA assumed that none of the Category I or II facilities have an in-house PE who can certify the facility's Plan and that these facilities need to retain an outside PE. For the other facilities, EPA assumed that only 50 percent of the Category III facilities and 25 percent of the Category IV facilities need to retain an outside PE to certify their SPCC Plans. The percentages are based on the assumption that the larger the facility, the more likely it will have an in-house PE.

The Agency assumed that the cost to a facility to retain an outside PE to certify the SPCC Plan varies by the size of the facility. EPA uses this assumption because a larger facility will likely have a more complex SPCC Plan, and more complex Plan amendments, than a smaller facility.

EPA revised the cost estimate developed for the 2002 final rule for obtaining PE certification of a new SPCC Plan and technical changes to an existing Plan.<sup>12</sup> Exhibit 4-1 summarizes the expected cost for each typical facility to retain a PE and to have a PE certify a new Plan, as well as any subsequent amendments. In-house PE certification costs, where applicable, are included in the burden estimate for recordkeeping and reporting compliance activities.

**Exhibit 4-1  
Cost to Facilities to Retain an Outside PE  
for Plan Certification**

Type of Facility	New Plan	Amendments
Category I and II	\$2,000	\$750
Category III	\$2,550	\$1,030
Category IV	\$3,110	\$1,310

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<sup>12</sup> The revised estimates are based on findings from discussions with several engineering firms.

### 4.1.3 Wage Rates

EPA estimated that the proposed requirements for facilities with motive power containers and the alternative option for facilities with qualified oil-filled operational equipment would affect a facility's total cost of compliance. Some facilities with qualified oil-filled operational equipment would no longer be regulated by SPCC and save the full cost of compliance. Facilities with motive power containers would take advantage of the proposed action and save a fraction of the full compliance cost. EPA used hourly wage rates for specific labor categories to calculate the per-facility cost associated with the rule's paperwork requirements, which is part of the full compliance cost. The approach used to develop a labor cost estimate is described in this section.

To obtain the cost for each compliance activity performed by a facility, unit time estimates for management, technical, and clerical personnel were multiplied by the hourly wage rate for each labor category and were then added to capital and operation and maintenance (O&M) costs. The labor wage rates for private industry were derived from the March 2005 U.S. Department of Labor's Employment Cost Indexes and Levels.<sup>13</sup> The 2005 wage rates include wages and salaries, benefit costs, including paid leave, supplemental pay, insurance, retirement and savings, legally required benefits, severance pay, and supplemental unemployment benefits. These wage rates reflect private industry averages, which were estimated by the Bureau of Labor Statistics (BLS) based on a survey of 35,600 occupations within 8,200 establishments in the private sector. These wage rates reflect industry averages, which may underestimate the actual wages received by some SPCC regulated facility personnel but overestimate the actual wage rate received by other facility personnel. EPA further adjusted these rates to reflect associated overhead costs.<sup>14</sup> The estimated wage rates used in the analysis are:

Management:	\$56.40/hour;
Technical:	\$47.40/hour; and
Clerical:	\$25.00/hour.

### 4.1.4 Plan Amendment and Discharge Reporting

EPA estimated that the proposed requirements for facilities with motive power containers and/or qualified oil-filled operational equipment affect a facility's total cost of compliance. EPA used several assumptions when estimating the per-facility cost associated with the rule's paperwork requirements, which is part of the full compliance cost. The underlying assumptions used to develop a full compliance cost estimate are described in this section.

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<sup>13</sup> United States Department of Labor, Bureau of Labor Statistics, Employer Costs for Employee Compensation, June 2005.

<sup>14</sup> Overhead costs were computed separately from BLS data and were assumed to be an additional 17 percent of the total wage rate, which is composed of direct wages and salaries and employee benefits, as reported by BLS. Adjustments to wage rates for overhead costs are based on the results of several Information Collection Requests that adjusted BLS wage rates by an additional 17 percent based on the results of a survey of chemical industries and trade associations. (See, for example, Information Collection Request for the Toxic Chemical Release Report for the Proposed Lead Rule, EPA ICR #1363.08.)

Plan preparation costs affect new facilities that become subject to the SPCC rule. New facilities include those facilities that will initiate operations during the ten-year period considered in the analysis. These facilities are required to prepare and implement their SPCC Plans within one year of initiating facility operations. Therefore, new facilities are assumed to incur the total cost of preparing a Plan in Year 1.

EPA assumed that the formal five-year review of SPCC Plans would affect one-fifth of all existing facilities annually. The total cost incurred by existing facilities for this review is greater if, following the review, the facility must amend its Plan. Based on best professional judgement, EPA estimated that three percent of all existing facilities under the baseline scenario would be required to amend their Plan as a result of five-year reviews.

Some fraction of SPCC-regulated facilities (new and existing) will be required to amend their Plans as a result of discharging oil or modifying their facility. Based on spill data obtained from the Emergency Response Notification System database, EPA estimated that approximately 0.15 percent of all facilities would incur costs each year due to reporting requirements related to an oil discharge. In addition, based on conversations with EPA regional personnel involved with the SPCC program, approximately ten percent of all facilities are estimated to incur recordkeeping and reporting costs annually as a result of facility modifications, independent of those related to the five-year review.

## **4.2 Capital and Operational Activities Costs**

Capital and operational costs include the cost of installing and maintaining secondary containment structures, conducting integrity testing of containers, valves, and piping, conducting spill prevention briefings, providing a drainage system for tank loading/unloading areas, and other activities.

### **4.2.1 Capital and Operational Activities**

EPA developed unit costs estimates for the following capital and operational compliance activities:

#### Integrity Testing

Sections 112.8(c)(6) and 112.12(c)(6) require the integrity testing of bulk storage containers on a regular schedule and whenever material repairs are done. Section 112.7(d) requires that if the installation of secondary containment is not practicable, the owner or operator must, among other measures, conduct periodic integrity tests for bulk storage containers and periodic integrity and leak testing of associated valves and piping.

## Secondary Containment (New Facilities)

Various sections of the rule require secondary containment to prevent discharges of oil to navigable waters and adjoining shorelines. For example, §112.8112.8(c)(2) and 112.12(c)(2) require secondary containment for the entire capacity of the largest single bulk storage container and sufficient freeboard to contain precipitation. Section 112.7(h) requires containment of at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility at a loading or unloading rack. Section 112.7(c) requires appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b). Other secondary containment provisions apply to other circumstances such as those for mobile or portable containers (§112.8(c)(11) and 112.12(c)(11)) or bulk storage containers at production facilities (§112.9(c)(2)).

## Other Capital and Operational Activities

EPA estimated costs associated with several other SPCC compliance activities. These costs consist of one-time initial costs to purchase and install equipment as well as costs of ongoing maintenance, upkeep, and training. Compliance activities include:

- *Discharge prevention briefing.* Section 112.7(f)(3) requires owners/operators to schedule and conduct discharge prevention briefings for facility personnel to assure adequate understanding of the SPCC Plan.
- *Drainage system for tank truck loading/unloading areas.* Section 112.7(h)(1) requires a quick drainage system for tank truck loading/unloading areas where rack area drainage does not flow into a catchment basin or treatment facility designed to handle discharges.
- *Valves for drainage from diked areas.* Sections 112.8(b)(2) and 112.12(b)(2) require appropriate drainage from diked areas using valves of manual, open-and-closed design.
- *Drainage systems from undiked areas.* Sections 112.8(b)(3) and 112.12(b)(3) require drainage systems from undiked areas with a potential for a discharge to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility.
- *Requirements for pump transfer.* Sections 112.8(b)(5) and 112.12(b)(5) require that where drainage waters are treated in more than one treatment unit and such treatment is continuous and pump transfer is needed, then two “lift” pumps are provided and at least one of the pumps is permanently installed.

### **4.2.2 Capital Costs Estimates**

EPA developed cost estimates for providing secondary containment at facilities with qualified oil-filled operational equipment and for performing integrity testing at facilities storing less than 10,000 gallons of oil. For other capital activities, the Agency used the cost estimates developed as part of the previous economic analysis.

EPA estimates the one-time cost of implementing secondary containment requirements at new electrical substations at approximately \$11,000-\$60,000 per facility depending on the facility size. EPA estimates the cost of providing secondary containment at new substations at approximately \$1,500 per stand-alone piece of equipment with oil capacity under 1,320 gallons. The unit costs of providing secondary containment were estimated based on an interview with a specialized engineering firm that provides secondary containment to electrical substations and subsequent comments provided by electric utilities. The cost of constructing a secondary containment structure is a one-time capital expenditure assumed to be incurred in the first year. There is some burden associated with maintenance of secondary containment such as debris removal, etc. EPA did not include a cost estimate for this type of activities, as the Agency assumes that the cost for these activities 1) is embedded in the overall facility maintenance costs, and 2) is not significant.

EPA estimates the annualized cost of conducting integrity testing at approximately \$120 for Category I facilities, \$350 for Category II facilities, \$2,640 for Category III facilities, and \$15,700 for Category IV facilities. The unit cost of integrity testing was estimated based on interviews with several tank inspectors and engineering firms.<sup>15</sup> The unit cost was estimated at \$700, \$1,000, \$3,000, and \$10,000 per tank for Category I, Category II, Category III, and Category IV facilities. The cost of performing integrity testing could vary significantly depending on the container type, capacity, type of oil, and other site-specific factors. For this analysis, EPA assumes that tanks are subject to inspection and integrity testing according to industry standards (e.g., API-653) once every 10 years. In practice, however, the interval between successive inspections depends on the tank and service conditions (in particular on the shell thickness and expected corrosion rate) and can exceed 10 years. The maximum interval between inspections under the API-653 standard is 20 years. Therefore, in some cases, facilities may perform integrity testing less often than every ten years. The SPCC regulation allows the use of environmentally equivalent measures in lieu of inspection and integrity testing by an outside tank inspector, consistent with good engineering practice. Such measures may have lower operational costs. For example, for shop-built containers with a shell capacity of 30,000 gallons or under, combining appropriate visual inspection with elevation of the container such that all sides are visible and corrosion is minimized, may be considered environmentally equivalent. As a result, EPA's analysis may overestimate the cost of integrity testing incurred by an average facility. EPA calculated the total cost of integrity testing per facility by multiplying the cost for a single tank by the number of tanks per facility.<sup>16</sup>

Exhibit 4-2 below summarizes the annualized capital costs that facilities are assumed to incur to comply with SPCC regulations.

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<sup>15</sup> The estimate was based on the interviews with (1) Gary Boley (InterSpec, LLC, an inspection and engineering services firm) in February 2004 and (2) engineering firms that specialize in SPCC-related activities at facilities that store oil, conducted by Abt Associates Inc. in July 2005.

<sup>16</sup> The number of tanks per facility was estimated using state oil tank databases at 2, 4, 9, and 16 tanks for Category I, II, III, and IV facilities, respectively.

**Exhibit 4-2**  
**Estimated Annualized Capital Costs Estimates by Facility Size**

Capital Cost Item	Categories I and II	Category III	Category IV
<b>Existing Facilities</b>			
Integrity Testing	\$170	\$2,640	\$15,700
Other Capital	\$210	\$600-\$670	\$1,630-\$1,880
<b>Total</b>	<b>\$380</b>	<b>\$3,240-\$3,310</b>	<b>\$17,300-\$17,600</b>
<b>New Facilities</b>			
Integrity Testing	\$170	\$2,640	\$15,700
Secondary Containment Per Facility with Oil-Filled Operational Equipment	\$11,000-\$60,000		
Secondary Containment Per Piece of Qualified Oil-Filled Operational Equipment	\$1,500		
Other Capital Costs	\$3,390	\$40,200-\$43,400	\$166,000-\$179,000
<b>Total <sup>1</sup></b>	<b>\$14,560</b>	<b>\$53,800-\$57,000</b>	<b>\$193,000-\$206,000</b>

<sup>1</sup> The numbers do not add up to the total due to rounding. The total estimate is calculated based on the per-facility cost of secondary containment and not the per-unit cost of secondary containment for oil-filled operational equipment.

### 4.3 State Overlap

Each state has its own regulations regarding the storage, handling, and containment of oil. In some cases, the effort required by these state regulations may be the same as what is required by SPCC. Therefore, without taking into account similar requirements imposed by state regulations, the cost of compliance and cost savings associated with the regulatory changes could be overestimated. The 2002 Economic Analysis of the SPCC rule accounted for overlap between the state requirements and the final rule. As part of the economic analysis for the current SPCC proposed rulemaking, EPA studied the overlap of state regulations to determine whether to adjust the estimate to account more accurately for recent changes in state requirements and/or refine the previously generated estimates. As a result of this review, the Agency concluded that there was non-compelling evidence to adjust the overlap estimate between the SPCC proposed rule and state regulations.

### 4.4 Projecting Compliance Costs

EPA used the Producer's Price Index (PPI) for 1995-2004 to inflate current costs of compliance and project the cost savings from proposed changes to the SPCC regulation over the next ten years. Two indices were used to adjust cost savings: the PPI for all finished goods and the PPI for materials and components for construction. For cost savings comprised of the cost of providing secondary containment or performing integrity testing, EPA used the PPI for materials and components for construction. In other cases, for example when the cost savings represented the entire cost of compliance or a mix of paperwork and capital costs, EPA used the PPI for all finished goods. The Agency assumed that the PPI would be constant over the ten-year analytical period.

## 4.5 Discounting Changes in Compliance Costs

Estimates for the changes in compliance costs represent ten-year average values discounted at three and seven percent.<sup>17</sup> EPA defined the ten-year period of analysis as 2005 through 2014. EPA used the following formula to calculate the present value of costs savings as of the beginning of 2005.<sup>18</sup>

$$\text{Present Value} = \text{Cost}_t / (1+r)^t$$

where:

Cost <sub>t</sub>	=	Costs in year t
r	=	Social discount rate (3% and 7%)
t	=	Year in which cost is incurred (1-10)

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<sup>17</sup> These discount rate values reflect guidance from the Office of Management and Budget regulatory analysis guidance document, Circular A-4 (OMB, 2003).

<sup>18</sup> Calculation of the present value assumes that the cost is incurred at the beginning of the year.

## 5.0 Qualified Facilities

The following three sections outline proposed changes in the rulemaking, describe the universe of affected facilities, and provide an estimate of cost savings from these changes. Each section is devoted to a single component of the proposed rule: qualified facilities, facilities with qualified oil-filled operational equipment, and facilities with motive power containers. The cost saving estimates presented for each component are based on the estimated number of affected facilities described in Section 3 and unit cost estimates for affected compliance activities described in Section 4 of this report.

EPA proposes to amend the Oil Pollution Prevention regulation (40 CFR part 112) to provide an option to allow the owner or operator of a facility that meets the qualifying criteria (hereafter referred to as a “qualified” facility) to self-certify his/her SPCC Plan in lieu of certification by a PE. EPA proposes to amend §112.3 to describe the SPCC eligibility criteria that a regulated facility must meet in order to be considered a qualified facility. A qualified facility would be a facility subject to the SPCC rule that (1) has an aggregate facility oil storage capacity of 10,000 gallons or less; and (2) had no discharges as described in §112.1(b) during the ten years prior to self-certification or since becoming subject to SPCC requirements if less than ten years. Facilities that have been subject to SPCC for less than ten years, including new facilities, would need to demonstrate no discharges as described in §112.1(b) only for the period of time they have been subject to the SPCC regulation. Self-certified Plans would not be able to include “environmentally equivalent” deviations to required Plan elements as provided in §112.7(a)(2) or impracticability determinations with respect to any secondary containment requirements as provided in §112.7(d). However, flexibility is provided in the proposal for the security (§112.7(g)) and integrity testing (§112.8(c)(6) and 112.12(c)(6)) provisions of the rule. Facilities with complicated operations and lower capacities may find that the current rule offers a more cost-effective method of achieving compliance than the proposed option. Therefore, a qualified facility could choose to follow the current SPCC requirements (including the PE certification) to take advantage of the flexibility offered by PE-certified impracticability determinations and environmentally equivalent measures.

### 5.1 Universe of Affected Facilities

EPA estimates that approximately 321,674 facilities with storage capacities below 10,000 gallons would be subject to SPCC in the first year. Over the next ten years, approximately 334,513 facilities with storage capacities below 10,000 gallons would be subject to SPCC on average. As with all of the regulatory options considered in developing the proposed rule, facilities would have the choice of complying with the existing SPCC rule (as amended in 2002) or taking advantage of the proposed change. EPA assumes that facilities would likely choose an alternative requirement if (a) they met the criteria, and (b) it was less costly or otherwise offered greater benefits than the existing requirement. EPA does not know how many facilities would meet the criteria and choose to avail themselves of the “qualified facility” options. Therefore, EPA examined the impact of the “qualified facility” options under three scenarios: 25 percent, 50 percent, and 75 percent of Category I facilities would likely meet “qualified facility” status and obtain regulatory relief. EPA estimated that 83,628 facilities would choose to take advantage of this option under the 25-percent scenario; 167,257 facilities under the 50-percent

scenario, and 250,885 facilities under the 75-percent scenario. Exhibit 5-1 presents the estimated number of existing and new SPCC-regulated facilities that are expected to meet “qualified facility” criteria.

**Exhibit 5-1  
Number of Existing and New “Qualified” Facilities  
(10-Year Average)**

Facility Type	Number of Facilities	25% Scenario	50% Scenario	75% Scenario
Existing	332,047	83,012	166,023	249,035
New	2,466	617	1,233	1,850
<b>Total</b>	<b>334,513</b>	<b>83,628</b>	<b>167,257</b>	<b>250,885</b>

The number of affected facilities under the proposed action for qualified facilities includes farms. The total number of farms affected by the extension is estimated to be approximately 144,608. Although EPA is proposing to extend the compliance dates for farms until it determines specific requirements for this industry, the Agency does not expect these requirements to be more stringent than the proposed requirements for qualified facilities. Therefore, EPA expects farms to accrue the cost savings as much as qualified facilities from other industries.

## 5.2 Compliance Cost Savings

EPA estimates that if 50 percent of the facilities complied with the alternative proposed today for qualified facilities that this option could reduce compliance costs by \$22.5 million and \$18.4 million per year, discounted at 3 percent and 7 percent, respectively. EPA assumed that the proposed flexibility for integrity testing would reduce the unit cost of testing by 50 percent. As a result of the proposed action, an existing qualified facility would save the cost of PE certification when amending the Plan. A new qualified facility would save the cost of PE certification when preparing a new SPCC Plan. Both existing and new facilities are expected to have lower costs of performing integrity testing based on the proposed changes. The estimated per-facility cost savings associated with the proposed action is \$132 for existing facilities and \$2,000 for new facilities. The cost savings for new facilities is higher than those for existing facilities because of greater expenses associated with preparing a new SPCC Plan.

If 25 percent of facilities with under 10,000 gallons of storage capacity qualified for this option, compliance costs would decrease by \$11.2 million and \$9.19 million per year, discounted at 3 percent and 7 percent, respectively. If 75 percent of facilities under 10,000 gallons qualified for this option, compliance costs would decrease by \$33.7 million and \$27.6 million per year, discounted at 3 percent and 7 percent, respectively. In addition, EPA anticipates that qualified facilities will be able to accrue cost savings due to flexibility being provided in site security requirements. These additional cost savings have not been quantified.

Exhibit 5-2 presents the per-facility annual cost of compliance for qualified facilities by activity. For the typical existing qualified facility, the estimated annual cost of compliance for all activities required by SPCC is approximately \$550. For the typical new qualified facility, the

estimated total annual costs for all activities required by the SPCC regulation is approximately \$11,100. Estimated annual costs for new facilities are higher than those for existing facilities because of the greater expense associated with preparing the Plan and the initial operational and capital costs. Since only facilities with total storage capacity below 10,000 gallons are expected to be affected by the proposed regulatory option, the per-facility estimate represents the compliance cost for the typical Category I facility.

**Exhibit 5-2**  
**Annual Burden and Cost Estimate for Required Paperwork-Related and Capital Activities**  
**Qualified Facilities**

Activity	Annual Burden Hours			Total Hours Burden	Capital/Startup Costs	O&M Costs	Annual Cost
	Management (\$56.40/hr)	Technical (\$47.40/hr)	Clerical (\$25.00/hr)				
Prepare and Review the SPCC Plan	0.3	0.8	0.1	1.2	\$0	\$18	\$75
Submit Plan in the Event of Certain Discharges of Oil	0.0	0.0	0.0	0.0	\$0	\$0	\$0
Revise the SPCC Plan	0.0	0.5	0.1	0.6	\$0	\$75	\$99
Maintain the SPCC Plan and Keep Records	0.0	1.8	0.5	2.3	\$1	\$0	\$99
<b>Total Paperwork-Related</b>	<b>0.3</b>	<b>3.1</b>	<b>0.7</b>	<b>4.1</b>	<b>\$1</b>	<b>\$94</b>	<b>\$274</b>
Integrity Testing	-	-	-	-	\$132	-	\$132
Secondary Containment	-	-	-	-	\$30	-	\$30
Other Capital	-	-	-	-	\$252	-	\$252
<b>Total Capital</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$414</b>	<b>-</b>	<b>\$414</b>
<b>TOTAL<sup>1</sup></b>	<b>0.3</b>	<b>3.1</b>	<b>0.7</b>	<b>4.1</b>	<b>\$415</b>	<b>\$94</b>	<b>\$688</b>

<sup>1</sup> The numbers do not add up to the total due to rounding.

### 5.3 Alternative Regulatory Options

As an alternative option, EPA considered a notification requirement for qualified facilities that have been operating for less than ten years, along with eliminating the requirement for PE certification and providing integrity testing and security flexibility for all qualified facilities. EPA estimates that this alternative option could reduce compliance costs by \$22.3 million and \$18.4 million per year, discounted at 3 percent and 7 percent, respectively. To arrive at these figures, EPA assumed that 50 percent of facilities under 10,000 gallons would qualify for this option. EPA also assumed that the proposed flexibility for integrity testing would reduce the unit cost of testing by 50 percent. EPA assumed that the total burden of notification for a facility would be three hours: one hour of managerial time, one hour of technical time, and one hour of clerical time. If 25 percent of facilities under 10,000 gallons qualified for this option, compliance costs would decrease by \$11.2 million and \$9.1 million per year, discounted at 3 percent and 7 percent, respectively. If 75 percent of facilities under 10,000 gallons qualified for this option, compliance costs would reduce by \$33.5 million and \$27.4 million per year, discounted at 3 percent and 7 percent, respectively. EPA decided not to pursue this option because it does not differ substantively from the proposed action; an additional notification burden was not considered necessary.

As another alternative option, EPA considered establishing three facility-size tiers according to SBA's recommendations, based on facility's total oil storage capacity.<sup>19</sup> EPA estimates that this alternative option could reduce compliance costs by \$42.9 million and \$35.0 million per year, discounted at 3 percent and 7 percent, respectively. To arrive at these estimates, EPA assumed that all SPCC-regulated facilities with oil storage capacity between 1,320 and 5,000 gallons would take advantage of the option, eliminating the cost of preparing and maintaining a written SPCC Plan. Additionally, EPA assumed that all SPCC-regulated facilities with oil storage capacity between 5,001 and 10,000 gallons would take advantage of the option and eliminate the cost of PE certification.

EPA does not support this approach because it poses significant implementation problems. In particular, the Agency believes that without the owner/operator developing a Plan or documentation on how the facility will comply or expects to comply with the SPCC requirements, it will be challenging for the facility to both meet the substantive requirements (for example, spill notification, response and preparedness planning, equipment maintenance, inspection and training, secondary containment) as well as provide documentation to the regulators that the facility is in compliance. Additionally, EPA inspectors conducting site visits would have no written Plan or documentation to assess the facility's effectiveness in implementing its spill prevention strategy.

EPA also considered two administrative options to provide relief to qualified facilities: a compliance date extension and a suspension of all requirements. These options would not have an impact on compliance costs, but would only delay expenditures at affected facilities. EPA decided against these options because owners or operators of qualified facilities would remain uncertain about the timing and nature of future requirements that would apply to them. The preferred option would set forth explicit requirements for qualified facilities that reduce

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<sup>19</sup> For detail, see "Proposed Reforms to the SPCC Professional Engineer Certification Requirement: Designing a More Cost Effective Approach for Small Facilities", Jack Faucett Associates, 2004.

compliance costs within the current compliance date schedule. The administrative options also would pose additional problems related to implementation and environmental protection. An extension would not explain what qualified facilities that should have had a Plan as of August 16, 2002, must do to “maintain a Plan” during the extension period. A suspension would increase environmental risks from potential discharges at qualified facilities during the interim period, due to the delayed implementation of preventive measures. A similar situation would occur under the extension option for facilities that begin operation after the August 16, 2002 effective date of the rule.

The following table presents the estimated cost savings associated with the proposed action and each of the alternative options considered by EPA for qualified facilities.

**Exhibit 5-3**  
**Estimated Cost Savings Associated with Considered Changes**  
**for “Qualified Facilities”**

Option	Cost Savings (\$ million)	
	3% Discounted	7% Discounted
Proposed (eliminate PE certification and provide integrity testing flexibility)	\$11.2 - \$33.7	\$9.19 - \$27.6
Alternative (same as proposed action plus a notification requirement)	\$11.2 - \$33.5	\$9.13 - \$27.4
Alternative (SBA's tier structure)	\$42.9	\$35.0
Extension	Not quantified	
Suspension	Not quantified	

## 6.0 Facilities with Qualified Oil-Filled Operational Equipment

EPA proposes to amend the Oil Pollution Prevention regulation (40 CFR part 112) to provide a definition of oil-filled operational equipment and an optional alternative to the general secondary containment requirements for oil-filled operational equipment that meets qualifying criteria (hereafter referred to as "qualified oil-filled operational equipment"). The proposal would allow owners and operators of facilities with qualified oil-filled operational equipment to have the alternative of preparing an oil spill contingency plan and a written commitment of manpower, equipment and materials to expeditiously control and remove any oil discharged that may be harmful, without having to make an individual impracticability determination as required in §112.7(d). The owner or operator would also be required to establish and document an inspection or monitoring program for this qualified oil-filled operational equipment to detect equipment failure and/or a discharge, in lieu of providing secondary containment.

EPA proposes to add §112.7(k) to define the SPCC eligibility criterion that oil-filled operational equipment must meet in order to be considered qualified oil-filled operational equipment. Eligibility of a facility with oil-filled operational equipment would be determined by considering the reportable discharge history from any oil-filled operational equipment. The qualified oil-filled operational equipment criterion specifically requires that the facility has had no discharges as described in §112.1(b) from any oil-filled operational equipment in the ten years prior to the SPCC Plan certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than ten years.

### 6.1 Universe of Affected Facilities

The proposed changes for qualified oil-filled operational equipment could address such items as hydraulic systems, lubricating systems (e.g., those for pumps, compressors, pumpjacks, and other rotating equipment including pumpjack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil to enable operation of the devices. Due to data and time limitations, EPA focused its economic analysis on the electric utility sector. Consequently, the analysis likely underestimates the total cost savings from the proposed "qualified oil-filled operational equipment" action and the alternative options.

Specifically, EPA used data on the number of substations listed by each major utility reporting to the Federal Energy Regulatory Commission (FERC).<sup>20</sup> A national estimate was extrapolated from these data using the ratio of the megawatt hours sold by utilities to the estimated total retail megawatt hours of electricity sold nationwide according to the EIA.

EPA estimated that the total number of new facilities with oil-filled operational equipment would be approximately 2,040 in the first year. Over the next ten years, approximately 2,450 new facilities are expected to be added annually on average. This number underestimates the universe of facilities affected by the proposed change, since it does not include oil-filled

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<sup>20</sup> Major regulated utilities must file FERC Form No. 1, on which utilities report information on their substations and electrical equipment. "Major" is defined as having (1) one million megawatt hours or more; (2) 100 megawatt hours of annual sales for resale; (3) 500 megawatt hours of annual power exchange delivered; or (4) 500 megawatt hours of annual wheeling for others (deliveries plus losses).

operational equipment from other industries. Facilities with qualified oil-filled operational equipment are expected to use a contingency plan with a written commitment of manpower, equipment and materials instead of secondary containment.

EPA assumed that existing SPCC-regulated facilities with qualified oil-filled operational equipment would already have secondary containment or a determination of impracticability of secondary containment with a contingency plan and a written commitment of manpower, equipment and materials in accordance with §112.7(d). In such cases, facilities would not benefit from this option.

EPA acknowledges that some fraction of new facilities would, according to the current SPCC rule requirements, provide an impracticability determination and provide a contingency plan and a written commitment of manpower, equipment and materials, rather than pursue secondary containment. In these cases, the proposed action's cost savings would be lower, since owners and operators would only be avoiding an impracticability determination rather than secondary containment. EPA does not know what fraction of facilities falls into this situation, and has decided not to incorporate the scenario in the analysis. As a result, EPA's analysis likely overestimates the cost savings to facilities in the electric utility industry from the proposed action.

However, EPA believes that the overall assessment of cost savings from this component of the rule may be significantly underestimated. This is due to the omission of potential cost savings that would accrue to all other industries outside of electrical utilities.

## 6.2 Compliance Cost Savings

EPA estimates that this component of the proposal could reduce compliance costs by as much as \$56.7 million and \$45.9 million per year, discounted at 3 percent and 7 percent, respectively. EPA calculated cost savings based on the assumption that new facilities with qualified oil-filled operational equipment would save the difference between the cost of secondary containment and the cost of preparing a contingency plan and a written commitment of manpower, equipment and materials. EPA estimated annual per-facility cost savings of \$9,000 to \$61,000 for new facilities, depending on a facility's size and other characteristics.

The Agency recognizes, that at some facilities, owners or operators with PE-certified SPCC Plans have made a determination that secondary containment is impracticable, and have implemented contingency plans and a written commitment of manpower, equipment and materials for the non-qualified oil-filled operational equipment. Such facilities would not see significant cost savings from this component of the current rule. The analysis of cost savings underestimates the number of facilities with qualified oil-filled operational equipment (as noted in section 6.1), but overestimates the cost savings for facilities that have been counted.

To assess the impact of the proposed action for facilities with oil-filled operational equipment, EPA estimated the cost of the contingency plan and a written commitment of manpower, equipment and materials that facilities would have an option to develop in lieu of providing secondary containment. A contingency plan prepared in accordance with 40 CFR 112.7(d) would define procedures and tactics for responding to discharges of oil into navigable waters or adjoining shorelines of the United States. The contingency plan is implemented whenever a discharge of oil has reached, or threatens, navigable waters or adjoining shorelines. EPA included the following elements in the cost estimate for a contingency plan: emergency response, hazard evaluation, discharge detection, and discussion of spill scenarios and plan implementation. The Agency estimated the total cost of a contingency plan at \$4,000, which includes the costs of paperwork-related activities such as Plan preparation and capital investments such as equipment purchase and upgrade.

Exhibit 6-2 presents the per-facility annual cost of compliance for facilities with qualified oil-filled operational equipment by activity. For the typical existing facility with qualified oil-filled operational equipment, the estimated total annual cost of compliance for all activities required by SPCC is:

Category I and II facility: \$436 per facility;  
Category III facility: \$900 per facility; and  
Category IV facility: \$2,248 per facility.

For the typical new facility with qualified oil-filled operational equipment, the estimated total annual costs for all activities required by the SPCC regulation is:

Category I and II facility: \$17,900 per facility;  
Category III facility: \$74,051 per facility; and  
Category IV facility: \$242,182 per facility.  
Estimated annual costs for new facilities are higher than those for existing facilities because

of the greater expense associated with preparing the Plan and the initial capital and startup costs. Since facilities of all sizes are expected to be affected by the proposed regulatory option, the per-facility estimate represents a weighted average of compliance costs for Category I - IV facilities.

**Exhibit 6-2**  
**Estimated Annual Burden and Cost Estimate for Required Paperwork-Related and Capital Activities**  
**Facilities with Qualified Oil-Filled Operational Equipment**

Activity	Annual Burden Hours			Total Hours Burden	Capital/Startup Costs	O&M Costs	Annual Cost
	Management (\$56.40/hr)	Technical (\$47.40/hr)	Clerical (\$25.00/hr)				
Prepare and Review the SPCC Plan	0.4	1.8	0.3	2.5	\$0	\$73	\$189
Submit Plan in the Event of Certain Discharges of Oil	0.0	0.0	0.0	0.0	\$0	\$0	\$0
Revise the SPCC Plan	0.0	0.4	0.1	0.5	\$0	\$66	\$89
Maintain the SPCC Plan and Keep Records	0.0	2.1	0.5	2.6	\$3	\$0	\$117
<b>Total Paperwork-Related</b>	<b>0.4</b>	<b>4.4</b>	<b>0.9</b>	<b>5.7</b>	<b>\$3</b>	<b>\$139</b>	<b>\$395</b>
Secondary Containment	-	-	-	-	\$663	-	\$663
Other Capital	-	-	-	-	\$969	-	\$969
<b>Total Capital</b>	-	-	-	-	<b>\$1,632</b>	-	<b>\$1,632</b>
<b>TOTAL<sup>1</sup></b>	<b>0.4</b>	<b>4.4</b>	<b>0.9</b>	<b>5.7</b>	<b>\$1,635</b>	<b>\$139</b>	<b>\$2,030</b>

<sup>1</sup> The numbers do not add up to the total due to rounding.

### 6.3 Alternative Regulatory Options

EPA considered limiting the proposed option by including two alternative storage capacity thresholds from which the owner/operator may determine the equipment or facility's eligibility: (1) the storage capacity of an individual piece of oil-filled operational equipment is 1,320 gallons or less, regardless of the facility's total oil-filled operational equipment aggregate capacity; or (2) the aggregate oil-filled operational equipment storage capacity at the facility is 10,000 gallons or less. EPA also considered an alternative range of thresholds for both an individual piece of oil-filled operational equipment (ranging from 2,640 to 5,000 gallons) and for the facility aggregate capacity of 20,000 gallons, in order to provide a greater degree of burden reduction than the alternative thresholds considered by EPA.

EPA decided not to propose a threshold criterion because it believes this equipment is unique and different from bulk storage containers and manufacturing equipment (flow-through process) such that the spill history alone suffices as a qualifying criterion to determine eligibility. The Agency was also concerned about the limited amount of information provided in response to the NODA.

EPA explored a three-tiered structure option in response to comments on the Notice of Data Availability (NODA) for oil-filled operational equipment (69 FR 56184, September 20, 2004). The option is based on a proposal put forth by the Utility Solid Waste Activities Group (USWAG). The option would allow an owner or operator to define discrete units of equipment as individual facilities and reduce requirements imposed on units with capacities less than 20,000 gallons. EPA estimates that this alternative option could reduce compliance costs by \$17.6 million and \$14.2 million per year, discounted at 3 percent and 7 percent, respectively.

EPA assumes that 75 percent of oil-filled operational equipment is co-located with larger capacity equipment and oil storage containers that would require secondary containment regardless of the proposed changes to the rule. The remaining 25 percent of equipment is considered stand-alone. Under the alternative option, units with capacities of 1,320 gallons or less would no longer be regulated under the SPCC rule. Facilities with co-located units could see modest cost savings due to fewer equipment-specific requirements for these units (e.g., inspection). Facilities with stand-alone units would see more significant savings.

For the purpose of the regulatory analysis, EPA assumes that half of the facilities with equipment with capacities of 1,320 gallons or less of oil would no longer be regulated. The other half would have additional oil storage capacity on-site and remain subject to the rule, albeit at a lower compliance cost due to regulatory relief for a portion of their equipment. Existing facilities would not see significant benefits for equipment with capacities greater than 1,320 gallons and less than 20,000 gallons, since they already have secondary containment in place. However, new facilities could opt for a contingency plan and a written commitment of manpower, equipment and material and avoid the need for secondary containment for these units.

EPA decided not to propose a threshold criterion because it believes this equipment is unique and different from bulk storage containers and manufacturing equipment (flow-through process) such that the spill history alone suffices as a qualifying criterion to determine eligibility.

The Agency was also concerned about the limited amount of information provided in response to the NODA.

Although the Agency agrees that some regulatory modifications are appropriate for facilities containing oil-filled operational equipment, there is still a reasonable potential for discharge from this equipment and coverage by some type of SPCC Plan is warranted. The Agency believes this is true even for facilities composed entirely of oil-filled operational equipment. EPA also has concerns about the suggestion to allow facility owners and operators to define each piece of oil-filled equipment as a separate facility because of the potential for greater rule complexity, implementation questions and confusion across the wide variety of facilities covered by the SPCC rule. For example, the Agency may have to define and develop criteria that would be used by the facility owner or operator to determine which equipment is a separate facility, which is not, and how the elements of a facility plan would address these differences. Uncertainty and confusion about the definition of a facility could lead to a greater lack of compliance and the potential for greater environmental harm.

EPA also considered two administrative options to provide relief to oil-filled operational equipment: a compliance date extension and a suspension of all requirements. These options would not have an impact on compliance costs, but would only delay expenditures at affected facilities. EPA decided against these options because facility owners or operators would remain uncertain about the timing and nature of requirements that eventually would apply to them. Since many facilities have oil-filled operational equipment, delaying changes to these requirements could lead to a significant number of facilities needing to modify their existing Plans more than once to accommodate future rule changes. A suspension would increase the risk of discharge at facilities with qualified oil-filled operational equipment during the interim period, due to the delayed implementation of preventive measures.

The following table presents the estimated cost savings associated with the proposed action and each of the alternative options considered by EPA for facilities with oil-filled operational equipment.

**Exhibit 6-3  
Estimated Cost Savings Associated with Considered Changes  
for Facilities with Qualified Oil-Filled Operational Equipment**

Option	Cost Savings (\$ million)	
	3% Discounted	7% Discounted
Proposed (preparing a CP and a written commitment of manpower, equipment and materials in lieu of providing secondary containment for all facilities with OFE)	\$56.7	\$45.9
Alternative (USWAG tier structure)	\$17.6	\$14.2
Extension	Not quantified	
Suspension	Not quantified	

## **7.0 Facilities with Motive Power Containers**

EPA proposes to amend the Oil Pollution Prevention regulation to exempt motive power containers, defined as “onboard bulk storage containers used solely to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment used solely to facilitate its operation.” This definition is intended to describe containers such as the fuel tanks that are used solely to provide fuel for a motor vehicle’s movement or the hydraulic and lubrication operational oil-filled containers used solely for other ancillary functions of a motor vehicle. This definition would not include transfers of fuel or other oil into motive power containers at an otherwise regulated facility, or a bulk storage container mounted on a vehicle for any purpose other than powering the vehicle itself, for example, a tanker truck or refueler. The definition of motive power containers would not include oil drilling or workover equipment. Specifically, it would not apply to the drilling or workover rigs themselves; however, other earthmoving equipment (such as a bulldozer) located at a drilling or workover facility would be included in the scope of the definition.

Although EPA has no empirical data on the amount of such storage at facilities regulated by the SPCC rule, EPA does not expect that many facility owners and operators have included motive power containers in their oil storage capacity calculations and SPCC Plans. For those who have considered motive power storage, EPA assumes that the volume that would be exempt under the proposed rule would not represent a large fraction of the facility’s aggregate capacity.

### **7.1 Universe of Affected Facilities**

To identify industries that are potentially affected by motive power exemptions, EPA started with information from industry comments to the 2002 SPCC rule. Commenters from the crop production, forestry/logging, and utilities industries indicated that they had motive power equipment. EPA identified additional industry groups by examining industries targeted by the major motive power equipment manufacturers. Caterpillar, Deere & Company, Kubota Corporation, Joy Global Inc., CNH Global NV, and Terex Corporation are some of the largest motive power equipment manufacturers. Each company lists the industries targeted by their products. EPA used these listings as the basis for classifying industries likely to have motive power containers.

EPA has no empirical data on the number of facilities with motive power containers with oil storage capacity of 55 gallons or greater. To estimate the number of facilities affected by the “motive power” proposed rule, EPA examined three scenarios whereby 10 percent, 25 percent, and 50 percent of the facilities in sectors with motive power containers may be affected by the proposed regulatory option. EPA estimated that over the next ten years, approximately 29,000 facilities would have “motive power” oil storage under the 10-percent scenario; 71,600 facilities under the 25-percent scenario; and 143,000 facilities under the 50-percent scenario on average. Exhibit 7-1 presents the estimated number of existing and new SPCC-regulated facilities that are expected to take advantage of the proposed action.

**Exhibit 7-1**

**Number of Existing and New Facilities with Motive Power Containers (10-Year Average)**

<b>Facility Type</b>	<b>Number of Facilities</b>	<b>10% Scenario</b>	<b>25% Scenario</b>	<b>50% Scenario</b>
Existing	282,660	28,266	70,665	141,330
New	3,860	386	965	1,930
<b>Total</b>	<b>286,520</b>	<b>28,652</b>	<b>71,630</b>	<b>143,260</b>

**7.2 Compliance Cost Savings**

EPA estimates that the proposed action would reduce compliance costs by \$0.92 million and \$0.75 million per year, discounted at 3 percent and 7 percent, respectively. The main benefit of the proposed action would be to provide greater clarity of EPA’s regulatory intent.

EPA assumed that 10 percent of the facilities in industries identified as having motive power storage might take advantage of the proposed exemption. Other facilities could also have motive power storage. EPA expects, however, that they have not considered such storage as part of their compliance with the SPCC rule. Because EPA expects most facilities with motive power storage to meet the SPCC rule’s oil storage thresholds regardless of motive power, EPA assumes that the cost savings from the proposed exemption will be modest (perhaps 5 percent compliance cost savings). As a result of the proposed changes, existing and new facilities with motive power containers would save five percent of the full compliance cost. The estimated per-facility cost savings associated with the proposed action is \$27.5 for existing facilities and \$553 for new facilities. The cost savings for new facilities are higher than those for existing facilities because of greater expenses associated with preparing a new SPCC Plan and initial start-up and capital costs.

EPA also examined two other scenarios whereby 25 percent and 50 percent of facilities in industries identified as having motive power storage would take advantage of the proposed exemption. Under the 25-percent scenario, compliance costs would decrease by \$2.29 million and \$1.87 million per year, discounted at 3 percent and 7 percent, respectively. Under the 50 percent scenario, compliance costs would decrease by \$4.58 million and \$3.74 million, discounted at 3 percent and 7 percent, respectively.

Exhibit 7-2 presents the per-facility annual cost of compliance for facilities with motive power containers by activity. For the typical existing facility with motive power containers, the estimated total annual cost of compliance for all activities required by SPCC is \$550. For the typical new facility with motive power containers, the estimated total annual cost for all activities required by the SPCC regulation is \$11,068.

Estimated annual costs for new facilities are higher than those for existing facilities because of the greater expense associated with preparing the Plan and initial start-up and capital costs. Since most of the facilities that are expected to be affected by the proposed regulatory option are Category I and II, the per-facility estimate represents the compliance cost for those facilities.

**EXHIBIT 7-2**  
**Estimated Annual Burden and Cost Estimate for Required Paperwork-Related and Capital Activities**  
**Facilities with Motive Power Containers**

Activity	Annual Burden Hours			Total Hours Burden	Capital/ Startup Costs	O&M Costs	Annual Cost
	Management (\$56.40/hr)	Technical (\$47.40/hr)	Clerical (\$25.00/hr)				
Prepare and Review the SPCC Plan	0.3	0.8	0.1	1.2	\$0	\$18	\$75
Submit Plan in the Event of Certain Discharges of Oil	0.0	0.0	0.0	0.0	\$0	\$0	\$0
Revise the SPCC Plan	0.0	0.5	0.1	0.6	\$0	\$75	\$99
Maintain the SPCC Plan and Keep Records	0.0	1.8	0.5	2.3	\$1	\$0	\$99
<b>Total Paperwork-Related</b>	<b>0.3</b>	<b>3.1</b>	<b>0.7</b>	<b>4.1</b>	<b>\$1</b>	<b>\$94</b>	<b>\$274</b>
Integrity Testing	-	-	-	-	\$132	-	\$132
Secondary Containment	-	-	-	-	\$30	-	\$30
Other Capital	-	-	-	-	\$252	-	\$252
<b>Total Capital</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$414</b>	<b>-</b>	<b>\$414</b>
<b>TOTAL<sup>1</sup></b>	<b>0.3</b>	<b>3.1</b>	<b>0.7</b>	<b>4.1</b>	<b>\$415</b>	<b>\$94</b>	<b>\$688</b>

<sup>1</sup> The numbers do not add up to the total due to rounding.

## 8.0 Airport Facilities with Mobile Refuelers

EPA proposes to exempt airport mobile refuelers from the specifically sized bulk storage secondary containment requirements of §112.8(c)(2) and (11). EPA defines an airport mobile refueler as a “vehicle with an onboard bulk storage container designed for, or used to, store and transport fuel for transfer into or from aircraft or ground service equipment.” The general secondary containment requirements of §112.7(c) would still apply to these airport mobile refuelers and to the transfers associated with this equipment. Since airport mobile refuelers are mobile or portable bulk storage containers, the other provisions of §112.8(c) would still apply.

The Agency researched regulatory compliance of airports with SPCC requirements for secondary containment, and found that some airports do not have sized secondary containment in place. EPA found that secondary containment for mobile refuelers is not a common practice and that mobile refuelers rarely have a designated area to park. Factors such as the land value at many commercial airports prohibits a single, designated parking area for mobile refuelers.<sup>21</sup> EPA analyzed potential cost savings to the industry using an assumption that new facilities would have to provide sized secondary containment in accordance with §112.8(c)(2) and (11) for airport mobile refuelers. Therefore, the estimated annual cost savings consist of the potential expenditures avoided of providing sized secondary containment for new airport mobile refuelers.

The Agency estimated the total number of new airports at 479 in the first year. Over the next ten years, approximately 535 new airports are expected to be added annually on average. EPA assumed one to three mobile refuelers per airport,<sup>22</sup> or approximately two per airport on average. To estimate the total cost savings, the Agency multiplied the number of new airports by the cost of providing sized secondary containment for each airport.<sup>23</sup> Then the Agency annualized the total cost savings over the ten-year analytical period. EPA estimates that this component of the proposal could reduce compliance costs by \$6.43 million and \$5.23 million per year, discounted at 3 percent and 7 percent, respectively.

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<sup>21</sup> For detail, see “Results of Research Project on Airport Engineering and Construction Firms”, Abt Associates Inc. memorandum, 2004.

<sup>22</sup> Based on Federal Aviation Administration estimates ([http://www.faa.gov/data\\_statistics/](http://www.faa.gov/data_statistics/)).

<sup>23</sup> The cost of providing secondary containment is estimated at \$6,500 per refueler and \$13,000 per airport. Insufficient data are available to differentiate cost estimates for sized versus unsized secondary containment.

## 9.0 Projected Impacts on Human Health, Welfare, and the Environment

Discharges of both petroleum and non-petroleum oils into the nation's marine and freshwater environments have the potential to cause damages to public health and welfare, and to the environment. Discharges from SPCC facilities can occur whenever oil is handled, stored, produced, transferred, used, or disposed. Causes of discharges include human error (e.g., overfilling tanks during transfer operations), equipment failure (e.g., deteriorated seals and ruptured pipes or tanks), and improper storage or abandonment.

The impact of such discharges into either the marine or freshwater environment can be devastating in the short-term, and some of the effects may last for years or even decades. Although studies have documented nature's ability to recover over time from the damage caused by a large oil discharge, both the extent of biological damage caused by a discharge and the speed of recovery depend on many factors, including: the geographic location, quantity of oil discharged, characteristics of the area affected, weather conditions, the season, the type of oil, and the nature of the response.

Physical, chemical, and biological transformations of discharged oil begin immediately upon introduction to marine or freshwater environments. The rate and degree of transformation depend on several factors related to advective and spreading processes. Advection is caused by the influence of overlying winds and underlying currents on the oil, while spreading results from the interplay among the forces of gravity, inertia, friction, viscosity, and surface tension.

The toxicity of the discharge depends on oil type. Freshly discharged crude is more acutely toxic than weathered oil because of the presence of the more toxic volatile constituents, which quickly evaporate or dissolve. Similarly, lighter refined products (e.g., diesel fuel and gasoline) are more acutely toxic than crude but dissipate more rapidly.

Depending on the location of the discharge as well as weather, some of the oil may affect shoreline areas. Unlike ocean discharges that are dispersed by wind and wave action, oil discharged near the shoreline typically concentrates and mixes with near-shore waters or collects along shorelines. As a result, wetlands, seagrass beds, beaches, rocky habitats, coral reefs, intertidal areas, and terrestrial ecosystems may be damaged. Oil deposited in near-shore sediments persists longer than in ocean sediments. Oil is particularly persistent in low-energy, wetland habitats.<sup>24</sup>

To varying degrees, coastal marine environments throughout the United States serve as breeding and nursing areas for resident and migratory species of fish and aquatic birds. Fish can be affected through ingestion of oil or oiled prey and uptake of dissolved petroleum compounds through the gills, or by changes in the ecosystem. Damage to fish eggs and larvae also may occur. Aquatic birds, especially diving birds, are highly vulnerable to oil discharged in coastal areas. Feathers that are coated with oil become water-logged and lose their insulating properties. As a result, birds may drown or die of hypothermia.

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<sup>24</sup> U.S. Department of Energy, Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels, Office of Strategic Petroleum Reserve, March 1991, Document Number DOE/FE-0221P.

Oil discharges may also disrupt the structure and function of marine ecosystems. Differential rates of mortality resulting from oil discharges shift food web relationships. Changes in resource availability, competition, and predation affect individual organisms. Populations of species that are dependent on affected prey or habitats will decline while opportunistic species may increase. Rare species, small local populations, or species that are seasonally concentrated in the impacted habitat are the most likely to decline as a result of an oil discharge.

In addition to adverse effects on fish, aquatic birds, and marine ecosystems, human health may be at risk as a consequence of oil pollution of water. The main concern regarding the risk to humans is the known carcinogenicity of several of the oil components and exposure to toxic elements in oil through direct exposure or through oil-tainted food. Human health risks also include hazards encountered by workers during cleanup operations. Additionally, oil dischargers may impact drinking water and industrial water intakes.

The main benefit of the proposed rule is lower compliance costs for certain types of facilities and equipment. EPA expects these reduced expenditures to translate to net social benefits. These benefits may be partially offset by potential increases in risk of oil discharges, due to less stringent requirements compared to the existing SPCC rule. For example, owners and operators of qualified oil-filled operational equipment that implement a contingency plan and a written commitment of manpower, equipment and materials instead of implementing preventive measures such as secondary containment could see an increase in the risk of discharges. It is reasonable to assume that any non-compliance with SPCC regulations is at least partially attributable to the costs of compliance. To the extent that is true, it is likely that by reducing the costs of complying with SPCC requirements, this rule may induce some previously non-compliant facilities to conform to these requirements. However, to the extent that the rule increases compliance by reducing regulatory costs, the risk of discharge will decrease.

The facilities that are expected to take advantage of the proposed action for qualified facilities store small amounts of oil, and have demonstrated environmental responsibility by avoiding discharges in the past ten years. EPA has designed the proposed rule to minimize increases in environmental risk. For example, EPA is providing an option to avoid PE certification for qualified facilities that have no history of reportable discharges. Any decision to apply environmental equivalence or pursue an impracticability claim would still require PE certification.

Similarly, EPA believes that for qualified oil-filled operational equipment the complexity and the nature of its use may not lend itself to traditional secondary containment methods for bulk storage containers and thus flexibility is appropriate in this area and may improve compliance with oil pollution prevention measures. Most facilities where these units are located will have general secondary containment that would help prevent discharges as described in §112.1(b). In summary, although the magnitude of any increase in risk under the proposed rulemaking is unclear, EPA does not believe that these changes in discharge risk are significant.

## 10.0 Small Business Analysis

The Regulatory Flexibility Act (RFA) requires federal agencies to determine whether their regulatory actions will have a significant economic impact on a substantial number of small entities. If an agency does not or cannot certify that a proposed regulation will not have a significant economic impact on a substantial number of small entities, it must prepare a regulatory flexibility analysis and examine alternatives to the proposed regulation that may reduce adverse economic effects on significantly impacted small entities.

In 1996, Congress enacted the Small Business Regulatory Enforcement Fairness Act (SBREFA), which amended the RFA to strengthen its analytical and procedural requirements and to expedite Congressional review of rules. SBREFA amended the RFA to reference the definition of a "small entity" found in the Small Business Act, which itself authorizes the Small Business Administration (SBA) to further define "small business" by regulation. The SBA's small business definitions are codified at 13 CFR 121.601 and the SBA reviews and reissues these definitions every year.

In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the proposed rule on small entities." 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

The proposed revisions to the SPCC rule reduce the regulatory burden on qualified facilities and qualified oil-filled operational equipment. Qualified facilities would no longer need a licensed PE to certify their Plans. Facilities that store oil solely for motive power would no longer be regulated, while other facilities with oil storage in addition to motive power containers may incur lower compliance costs. The proposed revisions to the SPCC rule also allow greater use of contingency plans with a written commitment of manpower, equipment and materials without requiring an impracticability determination as an alternative to secondary containment for qualified oil-filled operational equipment. It also allows airport mobile refuelers to fall under a facility's general secondary containment requirements rather than require specific sized secondary containment. Thus, the Agency concludes that the proposed revisions to the SPCC rule provide regulatory relief for small entities and therefore, does not have any adverse impact on small businesses.

## 11.0 Key Limitations of the Analysis

One of the main limitations of the regulatory analysis is EPA's lack of data on facilities regulated under the SPCC rule. As mentioned earlier, the rule does not include a notification requirement and, with certain exceptions, regulated entities do not need to submit their SPCC Plans to EPA. Without conducting a statistically valid survey, EPA is limited to data already collected by state or federal agencies or by proprietary sources. Such data are collected for diverse purposes and are not necessarily ideal for evaluating regulatory options, and they often omit portions of the regulated universe or lack sufficient detail to ascertain the impacts of changes in certain requirements. The type of information collected also varies among the different sources. Data provided by industry organizations or individual businesses are often anecdotal or based on surveys that are not statistically valid, and cannot be reliably extrapolated to a larger universe. As a result of this limitation of data on regulated facilities, EPA has had to rely on updated figures from 1996 for some industry sectors as well as federal and proprietary sources for other sectors. Because none of these sources give adequate detail to evaluate the potential impacts of individual regulatory options, EPA has chosen to examine up to three scenarios for each option to bound the range of cost savings that could occur.

In many cases, the SPCC rule provides considerable flexibility with respect to compliance with individual requirements, deferring to the judgment of a PE. Approaches to compliance will depend on site-specific circumstances. For example, compliance costs vary not only on the volume of oil storage and handled, but also on the types of oil at a site, the number of tanks (and their volume), and the locations of the tanks across a site. Given the wide range of industries and facility sizes affected by the SPCC rule – as well as geographical and climatic conditions – it is difficult to specify a realistic baseline against which regulatory changes can be measured. Therefore, it is also difficult to estimate the changes that could occur under various regulatory options.

Additional limitations to the analysis include the Agency's lack of data on the number of affected electric utilities with oil-filled operational equipment (as well as such equipment in other settings) and limited knowledge of actual compliance rates with current SPCC requirements. Finally, many of the cost assumptions used in the regulatory analysis are based on interviews with a limited number of PEs. It is difficult to simply assess "typical" costs when the costs of compliance are closely related to site-specific factors. Ideally, future analyses could explicitly account for such variability in costs.

## 12.0 Conclusions

Applying both a 3 percent and a 7 percent nominal discount rate, the proposed regulatory changes could yield compliance cost savings of \$22.5 million and \$18.4 million for the “qualified facility” option; \$56.7 million and \$45.9 million for the “qualified oil-filled operational equipment” option; \$0.92 million and \$0.75 million for “motive power” exemption; and \$6.43 million and \$5.23 million for airports with mobile refuelers, respectively. EPA does not believe that these cost reductions would be offset by any significant losses in environmental protection.

EPA acknowledges that some industry sectors would be affected by the proposed rulemaking more significantly than the others. For example, farms and electric utility plants comprise a large fraction of affected facilities. Under the proposed action for qualified facilities, farms account for almost 45 percent of all affected facilities. Under the proposed action for facilities with qualified oil-filled operational equipment, electric utilities account for most of the affected facilities.

EPA is aware of industry concerns regarding potential non-compliance among certain facility sizes or sectors, although no reliable empirical evidence exists to assess the scope and magnitude of such non-compliance. Even if facilities are not currently complying with the rule, they still have already incurred the costs of meeting SPCC requirements. Facilities currently in non-compliance are merely postponing the actual expenditures of compliance. Therefore, facilities that are currently non-compliant will have to make expenditures associated with coming into compliance.

Acknowledging uncertain and potentially misleading effects of inflation, Exhibit 12-1 presents the annualized cost savings associated with each of the proposed rule changes for potentially affected facilities, based on constant 2004 dollar values. The total estimated impact represents simple addition of cost savings associated with each of the proposed rule components, which overstates cost savings by not accounting for interactions between the impacts of the different components. The annuity value of the discounted net present value over the ten-year period of the analysis is presented, using a real discount rate of 3% and 7%, respectively. The mid-range cost savings is approximately \$94.2 million annually.

The total net present value of the stream of cost savings is presented in Exhibit 12-2. The mid-range estimate of the total NPV over a 10-year period is \$793 million.

Estimations of changes in expenditures by regulated entities based on an assumed level of noncompliance and cost savings from a potential increase in the compliance rate are included in the economic impact analysis in Appendix I.

**Exhibit 12-1: Estimated Annual Cost Savings Associated with Proposed Changes to the SPCC Rule (millions)**

Proposed Change	Annualized Cost Savings		
	Low-End	Mid-Range	High-End
Relief for Qualified Facilities	\$12.1 <sup>a</sup>	\$24.2 <sup>b</sup>	\$36.3 <sup>c</sup>
Relief for Facilities with Qualified Oil-Filled Operational Equipment		\$60.6	
Relief for Facilities with Motive Power Containers	\$0.98 <sup>d</sup>	\$2.47 <sup>e</sup>	\$4.93 <sup>f</sup>
Relief for Airport Mobile Refuelers		\$6.96	
TOTAL <sup>1</sup>		\$94.2	

<sup>1</sup> The totals represent simple addition of cost savings associated with each of the proposed rule components, which overstates cost savings by not accounting for interactions between the impacts of the different components. The savings cover a range using a 3% and 7% discount rate.

- a) assumes 25% of small facilities qualify and take advantage of relief
- b) assumes 50% of small facilities qualify and take advantage of relief
- c) assumes 75% of small facilities qualify and take advantage of relief
- d) assumes 10% of facilities are affected
- e) assumes 25% of facilities are affected
- f) assumes 50% of facilities are affected

**Exhibit 12-2: Total Net Present Value of Cost Savings Associated with Proposed Changes to the SPCC Rule (millions)**

NPV over 10-year Period	Low-End 7% Discounted	Mid-Range	High-End 3% Discounted
	\$563	\$793	\$930

## **Appendix I: Alternative Economic Impact Analysis**

### **A. Rationale for Conducting Alternative Analysis**

The main body of this regulatory analysis accounts for the reductions in social costs resulting from the proposed rule, i.e., cost savings. EPA developed a baseline for the analysis to assess the change in compliance costs associated with the proposed actions. EPA used the SPCC rule requirements under 40 CFR part 112, as amended in 2002 (67 FR 47042), as the baseline. For the benefit-cost analysis, EPA assumed that the proposed rule would not affect facilities that are not already required to meet the standards of the SPCC rule. Therefore, EPA is treating costs to comply with the current SPCC rule as liabilities that the regulated entities currently have – whether or not they have actually made the capital expenditures to comply. In this analytical construct, these firms are assumed to simply delay the expenditures for the costs they already carry.

EPA does recognize, however, that there is probably some level of non-compliance with SPCC requirements at present. Therefore, there might be some level of non-compliance during the period of analysis, ten years after the proposed compliance date of October 31, 2007. Facilities that are complying with existing (baseline) SPCC requirements would save money when some of those requirements are relaxed under the proposed rule. Those facilities that do not comply with those existing requirements, however, are not making those expenditures in the baseline, and thus would not save any expenditures as a result of this rule. The purpose of this economic impact analysis is to better understand the changes in actual expenditures by the regulated community, as opposed to the cost savings analyzed in the regulatory analysis.

Since there is no reliable empirical evidence to assess the extent and magnitude of the current non-compliance, EPA developed an alternative scenario assuming a rate of 50 percent non-compliance. The following section compares the estimated changes in expenditures resulting from the proposed regulation under the full and partial compliance scenarios.

### **B. Estimated Reductions in Expenditures for the Alternative Baseline**

Under the full compliance scenario, anticipated reductions in expenditures would be equal to the cost savings in the benefit-cost analysis presented in the main body of this document. In this case, all facilities eligible for the proposed changes in the rule are expected to take advantage of less stringent requirements and reduce their expenditures.

Under the partial compliance scenario, anticipated reductions in expenditures would be less than the cost savings presented in the benefit-cost analysis. The reason for lower reductions in expenditures in this scenario is that the fraction of SPCC-regulated facilities assumed to be in non-compliance would not be affected by the proposed changes, and therefore, would not be able to lower their costs. Under a 50 percent non-compliance scenario, half of all facilities (all non-compliant facilities) will not have any cost savings – resulting in cost savings equal to 50 percent of the cost savings calculated under the full compliance scenario. The estimated changes in expenditures under the full and partial compliance scenarios are presented in

Exhibit I-1. Using constant 2004 dollar values (see Exhibit 12-1), the mid-range estimated annual cost savings is \$47.1 million under the partial (50 percent) compliance scenario.

**Exhibit I-1**  
**Estimated Reductions in Expenditures Associated with Proposed Changes to the SPCC Rule under Full and Partial Compliance Scenarios**

Proposed Change	Reductions in Expenditures (\$ million/year)					
	Full Compliance			Partial (50 percent) Compliance		
	Not Discounted	3% Discounted	7% Discounted	Not Discounted	3% Discounted	7% Discounted
Relief for Qualified Facilities	\$26.5	\$22.5	\$18.4	\$13.3	\$11.3	\$9.20
Relief for Facilities with Oil-Filled Operational Equipment	\$67.4	\$56.7	\$45.9	\$33.7	\$28.4	\$23.0
Relief for Facilities with Motive Power Containers	\$1.08	\$0.92	\$0.75	\$0.54	\$0.46	\$0.38
Relief for Airport Mobile Refuelers	\$7.61	\$6.43	\$5.23	\$3.81	\$3.22	\$2.62

<sup>1</sup> The estimates represent simple addition of cost savings associated with each of the proposed rule components, which overstates cost savings by not accounting for interactions between the impacts of the different components.

Reducing the costs of complying with SPCC requirements may induce some previously noncompliant facilities to conform to these requirements. Increased compliance with the SPCC requirements could result in higher cost savings associated with the proposed changes in the rule. EPA does not know the extent to which the relaxed requirements would affect overall compliance. For this analysis, EPA considered the potential impacts of increasing a hypothetical 50-percent compliance rate to 60-percent compliance. The following annualized cost savings may result from a ten percent increased in compliance: \$7.0 million for qualified facilities, \$12.1 million for facilities with qualified oil-filled operational equipment, \$1.7 million for facilities with motive power containers, and \$2.9 million for airports with mobile refuelers. The actual compliance level does not affect the cost savings associated with the increased compliance rate because the relationship between the cost savings and the compliance rate is linear—i.e., the increase in cost savings due to an incremental increase in the compliance is constant.

**C. Ramifications of the Alternative Compliance Baseline**

Facilities that are not complying with current SPCC requirements are not providing the concomitant levels of environmental protection assumed by the rule. Under the reduced compliance baseline, therefore, any increased risks associated with reduced levels of regulation

under the proposed rule also diminish, since there is no reduction in environmental protection for those facilities.

Facilities that are currently not complying with the rule have experienced the benefits of avoided compliance costs accrued during the period of non-compliance. These cost savings would further offset the current overall costs of compliance.