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Coast Guard**



Regulatory Assessment: Salvage and Marine Firefighting Requirements for Vessel Response Plans

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Report and Final Regulatory Flexibility Analysis for the Final Rule

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Acronyms

ACOE	U.S. Army Corps of Engineers
BLS	U.S. Department of Transportation, Bureau of Labor Statistics
CFR	Code of Federal Regulations
COTP	Captain of the Port
DOE	U.S. Department of Energy
EEZ	Exclusive Economic Zone
EO	Executive Order
FRFA	Final Regulatory Flexibility Analysis
FWPCA	Federal Water Pollution Control Act
HEC	Herbert Engineering Corporation
ICS	Incident Command System
JMS	Jamestown Marine Services
LOF	Lloyd's Open Form
MARPOL	International Convention for the Prevention of the Pollution of the Sea by Oil
MISLE	Marine Information Safety and Law Enforcement
MSIS	Marine Safety Information System
NPRM	Notice of Proposed Rulemaking
OCONUS	Outside Continental United States
OMB	Office of Management and Budget
OPA 90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSRO	Oil Spill Removal Organization
P&I	Protection and Indemnity Club
PRA	OPA 90 Programmatic Regulatory Assessment
PV	Present Value
QI	Qualified Individuals
RA	Regulatory Assessment
RFA	Regulatory Flexibility Act
SERT	Salvage Engineering Response Team
S&F	Salvage and Marine Firefighting
ULCC	Ultra Large Crude Carrier
USC	United States Code
VLCC	Very Large Crude Carrier
VRP	Vessel Response Plan
WCUS	Waterborne Commerce of the United States

Contents

Executive Summary	1
Chapter 1: Introduction	3
Purpose of Report	3
Need for Federal Regulatory Action.....	3
Background.....	3
Salvage and Marine Firefighting Basics	3
State of the Industry	4
Summary of Industry Questionnaire Information	6
Organization of Report	7
Chapter 2: The Final Rule	8
History of the Final Rule.....	8
Regulatory Baseline	9
Final Rule.....	10
Impacted Parties.....	15
Alternatives	15
Chapter 3: Discussion of Price of Equipment, Other Services, and Salaries for the Final Rule	16
Costs Estimated for the Proposed Rule and the Business Environment of the Salvage and Firefighting Industry	16
Final Rule Cost Impact	17
Salvage Elements under the Final Rule	19
Marine Firefighting Elements under the Final Rule	19
Planholders and Plan Preparers.....	19
Chapter 4: Benefit of Final Rule.....	21
Summary of Benefit of Proposed Rule	21
Current Trend in Spill Data (2002-2006).....	23
Benefits of Salvage and Marine Firefighting Effectiveness and Worst Case Discharges.....	24
Chapter 5: Final Regulatory Flexibility Act Analysis	27
Need for Final Regulatory Flexibility Analysis.....	27
Succinct Statement of the Need for and Objectives of Rule	28
Summary of Significant Issues Raised by Public Comments	28
A Description and Estimate of Small Entities to Which Rule Will Apply	29
Reporting, Recordkeeping, Professional Skills, and Class of Small Entities	29

Summary of Steps Agency Has Taken to Minimize Significant Adverse Economic Impact on Small Entities	29
Chapter 6: Paperwork Reduction Analysis	31
Necessity of the Information Collection	31
Needs and Uses	31
Use of Information Technology	31
Efforts to Identify Duplication.....	31
Minimizing Burden.....	31
Consequences of Less Frequent Collection	32
Consultations Outside the Agency	32
Estimate of Burden and Cost	33
Reason for Change in Burden	34
Bibliography	35

Tables

Table 1. Recent Accident and Salvage History (In Order of Millions of Gallons Salvaged)	6
Table 2. S&F Response Activity Time Frames	13
Table 3. Highest Estimated Costs of Salvage Equipment in 2002 (\$Millions).....	17
Table 4. Summary of Plans and Vessels by Planholders and Plan Preparers	20
Table 5. Effectiveness Factors	22
Table 6. Salvage & Firefighting Affected Spills.....	23
Table 7. Summary of Annual Baseline Spill Volume.....	24
Table 8. Projected Adjusted Spill Amounts using Weighted Average WCD data	25
Tables 9 (A) & (B) Summary of WCD Scenarios	26
Table 10. Paperwork Burden of Final Rule (Non-Regulatory, Adjustment to Collection of Information)34	
Appendix A. Price of Salvage Equipment and Other Services	A
Appendix B. Price of Equipment and Personnel Salaries for Standard “Flyaway” Firefighting Package..	B
Appendix C. Casualty Reports.....	C

Executive Summary

The Oil Pollution Act of 1990 (OPA 90) includes authority for the Coast Guard to require and regulate oil spill contingency plans for tank vessels, known as vessel response plans (VRPs). As originally developed, VRP regulations focused on planning for the recovery of oil from the water. The Coast Guard found that revisions to the original requirements are necessary in order to provide owners and operators of vessels carrying oil clearer guidance on required salvage and marine firefighting (S&F) resources, thus assuring that adequate assets are available for response to tank vessel accidents. The final rule will revise VRP salvage and marine firefighting requirements that appear in 33 CFR part 155. We published the original rule for VRPs in January 1996.

Since 2002, several factors have led us to reconsider the cost impacts of the rule. First, the rule requirements themselves have changed, eliminating the need for the costly staging of heavy lift equipment. In addition, marine salvage and firefighting business practices have changed in response to market forces external to the rule. Even in the absence of the Coast Guard regulatory requirements, industry has made considerable investments in the equipment needed to fulfill other business opportunities and provide services through the normal course of daily business operations. Other market forces, such as the accessibility of capital in the past and the infusion of resources resulting from hurricane Katrina response efforts, have contributed as well to this large investment in infrastructure capacity. As a result, salvage companies have already acquired the capacity that we had projected would be required to meet the revised plan requirements. As a combined result of these changes, we now estimate that the rule will not trigger intensive investment in equipment by industry. Therefore, we do not anticipate salvage and firefighting companies will incur the capital costs and associated annual costs that we previously envisioned in the proposed rule based on comments received from industry and the state of the business environment during the past six years. Companies purchased equipment as a part of their business model in order to carry out the daily services they provide clients in addition to contract work without consideration to the requirements of the proposed rule.

The following discussion provides greater detail of the factors that led us to this conclusion. It is important to note that, although the equipment and expertise to conduct salvage and firefighting operations is available in the market, vessel response plans must still be modified to most effectively draw upon these resources at the time of a spill. Thus, we estimate costs associated with paperwork requirements to plan holders to modify their plans to comply with the rule requirements.

Initially, the Coast Guard estimated that equipment costs and other costs such as employee training and drills, employee compensation, acquisition of equipment, record creation and recordkeeping, and contract negotiations with planholders (initial and annual) incurred by the salvage and firefighting companies would be passed onto vessel planholders in the form of retainer fees or increased costs for services provided. However, through our contact with industry representatives, the levying of retainer fees is not a common industry practice within the marine salvage and firefighting industry. Marine salvage and firefighting companies recover most of their costs for equipment and other expenditures through marine related contract work and services. There is, however, continued paperwork costs for planholders, which requires an adjustment to an existing collection of information that we estimate in Chapter 6 of this report.

For the final rule, we added clarifying language to existing requirements of the NPRM. The most significant change in the final rule is the removal of the “heavy lift” response time requirement.¹ This should greatly reduce the burden and cost on industry by allowing industry to list ‘estimated’ response

¹ Heavy lift means the use of a salvage crane, A-frames, hydraulic jacks, winches, or other equipment for lifting, righting, or stabilizing a vessel.

times of heavy lift equipment rather than having to pre-stage the equipment in geographical locations to meet firm response times. Additional paperwork burden exists in the form of plan submissions and we present the analysis of the hour burden (as an adjustment, not a program change) in the collection of information accordingly and later in this report. For about 797 planholders that this rule will impact, we estimate the total burden hours to increase by 19,925 hours with an associated cost of approximately \$1.2 million annually.

Since the publication of the Notice of Proposed Rulemaking (NPRM) in May 2002 (31 FR 31868), we updated the prices of equipment, training, labor, and paperwork costs that were initially estimated for the proposed rule. The updated prices are primarily discussed in Appendices A and B of this report. We contacted salvage and marine firefighting companies in order to obtain updated price estimates for these items. The Coast Guard developed a questionnaire (similar to the original questionnaire used in the NPRM) and sent it to nine salvage and firefighting companies that we deemed suitable representatives of the industry. These companies comprise a mixture of small and large companies based on the number of response plans submitted to the Coast Guard at the time of this writing. Several companies perform both services while others perform either salvage or firefighting services.

This rule provides an efficiency benefit that will result in reduced response times. Current planholders will be able to make arrangements and contract with resource providers before future events occur, therefore, reducing future response times. The rule ensures that the appropriate salvage and marine firefighting resources are identified and available for responding to incidents up to and including worst case discharges. This rule will assist in restoring maritime transportation related commerce after a navigation or security event. The rule also provides clarification to the existing requirements found at 33 CFR 155.1050 which are general and only require that a planholder identify salvage and marine firefighting resources.

Ultimately, reduced response time may result in barrels of oil not spilled after an event occurs. The Coast Guard examined spill incidents from casualty cases for tank ships and tank barges for the period 2002-2006. This period appeared relevant for evaluation since the Coast Guard published the original VRP rule in January 1996 and since several years had elapsed since OPA 90, thus allowing time for OPA 90 related rules to have an effect on the amount of oil that was being spilled into the water from tanker incidents. We found that spill volume had decreased during this period in contrast to the years just following OPA 90. However, the Coast Guard considers this rule will assist in mitigating the impacts of future low-risk, high-consequence worst case discharges.

We consider the efficiency gains to be the primary benefit of the rule. However, we also present additional analysis of potential scenario-based benefits in Chapter 4 of this report. There, we considered large spill scenarios and effectiveness factors to present a range of quantified benefits in worst case discharge scenarios.

In this report we also conclude that the requirements for salvage and firefighting will not have a significant economic impact on a substantial number of small entities. Under the final rule, some planholders businesses may be eligible for a limited time waiver of the salvage and firefighting requirements if there are no response provider services available in their geographic area at the time the final rule becomes effective.

Chapter 1: Introduction

Purpose of Report

This regulatory assessment (RA) supports the vessel response plan (VRP) salvage and marine firefighting (S&F) requirements final rule. The purpose of the RA is to provide the Coast Guard program and project managers with data and analysis of the estimated costs (in dollars), if any, and benefits (in barrels of oil not spilled), small business impacts, and industry's paperwork burden.

Need for Federal Regulatory Action

The final regulatory action is intended to clarify the salvage and marine firefighting services that must be identified in vessel response plans and set new response time requirements for each of the required salvage and marine firefighting services. This includes the removal of the specific response time requirement for "heavy lift" services. The clarifying language changes ensure that the appropriate salvage and marine firefighting resources are identified and available for responding to incidents up to and including a worse case discharge scenario.

Background

The Oil Pollution Act of 1990 (OPA 90) included authority for the Coast Guard to require and regulate oil spill contingency plans for tank vessels, known as VRPs. As originally formulated, the VRP regulations focused heavily on planning for the recovery of oil from the water. The Coast Guard found that revisions were necessary to provide owners or operators of vessels carrying oil (planholders) clearer guidance on required S&F resources, with the aim of providing increased assurance that the correct assets are available in response to tank vessel accidents.

The final rule will revise the VRP S&F requirements that appear in 33 CFR part 155 with the addition of a new subpart, I. The Coast Guard published the original final rule/notice of suspension for VRPs in February 1998. The Federal Water Pollution Control Act (FWPCA) requires response plans in 33 U.S.C. 1321(j)(5) as amended by Section 4202(a) of OPA 90.

Salvage and Marine Firefighting Basics

S&F is a specialized discipline combining elements of many others including seamanship, marine engineering, naval architecture, dredging, and rigging. Milwee (1996) defined salvage as "saving property at sea and reducing environmental damage," including "all actions taken aboard and ashore to resolve a maritime casualty and to save property at risk at sea".² Salvage actions are difficult, imprecise, and often-hazardous affairs, each case is unique from all others.

Either *professional* or *casual* salvors may respond to an accident. Professionals are companies and people in the salvage business with the people and equipment to do the work. Casual salvors that happen upon a casualty incident or that respond to a distress call usually work without a contract. They submit claims through the courts and subsequently receive rewards if they are successful in saving the property. There are also "yellow pages" salvors, who maintain few assets of their own, but seek opportunities to respond with *ad hoc* organizations.

² Milwee, Jr., William I. "Modern Marine Salvage". Cornell Maritime Press, Centreville, Maryland, 1996.

The environmental aspect of salvage and firefighting is a relatively recent development, following a number of major oil spills since the advent of very large and ultra large crude carriers (VLCC and ULCC), the growth in size and number of other oil product tankers, the new regulatory climate of OPA 90, and the tank-vessel related aspects of The International Convention for the Prevention of the Pollution of the Sea by Oil (MARPOL). These have led to the principle of “liability salvage”, in which prevention of environmental damage is of equal or greater concern than the traditional aim of saving property. This shift has been accompanied by two process changes for the salvor during a casualty response action—

- 1) Incident Command System (ICS)—The ICS is the multi-agency spill response management structure put in place following OPA 90 and is supervised by an On-Scene Coordinator (OSC), usually a Coast Guard officer. The ICS represents the integration of three elements of spill response: technical, commercial, and environmental. While 33 CFR part 155 mandates the integration of salvage into the ICS, OSCs’ use of the right technical assistance is not clearly defined. In short, salvors are unsure of their place in the ICS.
- 2) Lloyd’s Open Form (LOF) changes—The 1989 International Salvage Convention, ratified by the United States, specifically identified the salvor’s duty to protect the environment and authorized a special compensation award for it. LOF is one of many contract forms available, and it is the most common. The traditional “no cure, no pay” approach (where the contract provides that the salvor will be paid only in the event of success) of LOF, as applied to the salvage of property, was modified in 1990 to reward salvors’ efforts to prevent or minimize marine pollution and entitles the salvor to as much as 130 percent of expenses for such efforts.

Salvors’ compensation, LOF changes aside, normally comes from the various insurers underwriting the ship and its cargo. These insurers include hull and machinery underwriters, cargo insurers, and the Protection and Indemnity (P&I) Clubs. P&I Clubs generally provide more generally for other liabilities, including environmental impacts, than the other underwriters. They pay for salvors’ services under the special compensation clauses of the modified LOF and other contracts affected by the 1989 Salvage Convention. The salvor may, therefore, be compensated by any or all of the insurers with an interest in the particular voyage during which the casualty occurred.

State of the Industry

A 1994 Marine Board Report, “A Reassessment of the Marine Salvage Posture of the United States”,³ (“A Reassessment of the Marine Salvage Posture of the United States”, National Academy Press, Washington, DC, 1994) found a marine salvage industry in flux whose traditional assets were in decline both worldwide and in the United States.

In the aftermath of OPA 90, the U.S. salvage sector was in an enhanced state of readiness, but the authors of the Marine Board Report feared a longer-term continuation of negative trends, particularly in the availability of trained and experienced salvors. Declining accident rates, particularly among oil carriers, have driven the transformation of much of the industry into two new business approaches—

- 1) Salvage response through the use of pre-positioned “flyaway” equipment and networks of contracts and personnel to carry out the work. These include strategically located assets owned by oil spill removal organizations (OSROs).

³ National Research Council, Commission on Engineering and Technical Systems, Marine Board, Committee on Marine Salvage Issues.” A Reassessment of the Marine Salvage Posture of the United States.” National Academy Press, Washington, DC, 1994.

- 2) Salvage as a secondary line of work among a number of general marine contracting business areas. Many firms now have multi-purpose boats and other assets that generally work in other marine related activities, but are available for salvage when the need arises.

The Marine Board also noted the changed nature of salvage management with the advent of the ICS approach, which has removed some freedom of action from the salvor. It recommended that—

- The 1948 Salvage Facilities Act, whose focus was national defense, be reformed by Congress to reflect new priorities, especially environmental protection, and that the Coast Guard and Navy take an active role in the training of salvors, promotion of salvage technology, and availability of Government salvage assets to the public at large
- All commercial vessels, not just tank vessels, demonstrate planning for salvage response
- Ships be fitted with “emergency towing packages” and their crews be trained in salvage techniques
- Review of local firefighting readiness be enhanced to address the lack of experience and equipment in the ports.

Discussion of salvage planning by non-oil carriers has only recently started, since the *New Carissa* accident and salvage in 1999 and other general cargo salvage incidents. Emergency towing packages are not yet universal on tank vessels and are of varying quality. Coast Guard and private-sector training of salvors has improved, particularly with respect to the use of computerized salvage analysis tools, but the dwindling number of qualified salvors is still an issue. Finally, the training and readiness of local firefighting units, both public and private, has been quite uneven, in view of jurisdictional issues that arise in any discussion of marine firefighting—*who does what and where?*.

Recent history has shown that many of the Marine Board’s concerns were well founded. A number of freight-vessel accidents and salvage operations showed gaps in coverage offered by salvage outfits and lack of timely response. Some accidents have highlighted the problems associated with foreign ownership and the lack of timely decision-making and actions by P&I Clubs. The Coast Guard, therefore, decided to proceed with the rulemaking process to require enhanced tank-vessel salvage response services requirements under OPA 90.

In spite of these problems, the salvage industry can claim substantial success in limiting the consequences of tank-vessel accidents, in particular since promulgation of the OPA 90 response regime. Table 1 indicates that crew actions and salvage response efforts have resulted in substantial prevention of oil spillage, even in the most severe accidents.

Table 1. Recent Accident and Salvage History (In Order of Millions of Gallons Salvaged)

Incident	Date	Millions of Gallons of Oil Onboard	Millions of Gallons of Oil Spilled	Total Millions of Gallons of Oil Salvaged
T/V <i>Anitra</i>	May 9, 1996	41.90	0.01	41.89
T/V <i>Exxon Valdez</i>	March 24, 1989	44	11	33
T/S <i>Presidente Rivera</i>	June 24, 1989	19.0	0.3	18.7
Tampa Bay Collision (Fire)	August 10, 1993	13.00	0.33	12.67
T/V <i>BT Nautilus</i>	June 7, 1990	12.00	0.26	11.74
T/S <i>Julie N</i>	September 27, 1996	8.800	0.179	8.621
T/V <i>Mega Borg</i> (Fire)*	June 6, 1990	39.0	4.3	7.9
T/V <i>World Prodigy</i>	June 23, 1989	8.23	1.28	6.95
T/B <i>North Cape</i>	January 19, 1996	3.900	0.828	3.072
T/B <i>Buffalo 292</i>	March 18, 1996	1.226	0.210	1.016
T/B <i>Morris J. Berman</i>	January 7, 1994	1.50	0.62	0.88
T/V <i>Stolt Spirit</i> (Fire)	November 11, 1997	0.25	0.00	0.25
T/V <i>Shogun</i>	November 10, 1997	0.234	0.010	0.224
T/B <i>Buffalo 286</i>	May 26, 1996	0.672	0.042	0.63
T/V <i>Jupiter</i> (Fire)*	September 16, 1990	0.860	0.012	0.030–0.050

Source: U.S. Coast Guard, Marine Information for Safety and Law Enforcement (MISLE) data system; formerly, the Marine Safety Information System (MSIS) and Marine Safety Management System (MSMS).

* Fire consumed a portion of the cargo oil.

Summary of Industry Questionnaire Information

The Coast Guard developed and sent a questionnaire to various salvage and marine firefighting companies that we deemed were suitable representatives of the industry based on market share (less than 10 companies). This was necessary for us to obtain valuable industry information such as the behavior of firms in the industry and to update prices of equipment (for expository purposes) since the publishing of the NPRM in 2002. One of the main issues we were concerned with was the notion of retainer fees. Our questionnaire indicated that firms within the industry do not charge retainer fees in order to recoup the costs for equipment, as we once believed. Firms recover costs of expenditures primarily through related services and other contracted work.

From our questionnaire, we also found that the salvage response may not be as frequent as once believed. There was a range of responses to the question, “How many salvage jobs does your company respond to annually”? The respondents gave replies anywhere from one every six months to about two-and-a-half per month. The number of firefighting jobs responded to by these companies was nearly non-existent. This suggests companies will derive almost all of their revenue from jobs not directly related to the type of salvage and firefighting response activities covered by this rule.

In addition, we asked the respondents, through follow-up telephone conversations, if they believed response “gaps” existed in the U.S. We received mixed responses; however, there was a consensus that there may be the need for acquiring additional resources to respond to incidents near Alaska or Guam, but no specific responses were given. As the industry exists today, we believe that salvage and marine firefighting companies are well positioned to respond to incidents per the response time requirements in the rule.

Organization of Report

Chapter 2 focuses on the provisions of the final rule. Chapter 3 discusses the price of equipment and other items. Chapter 4 summarizes the benefits associated with the final rule and the importance of marine salvage and firefighting in general. The Final Regulatory Flexibility Act Analysis and Paperwork Reduction Analysis appear in Chapters 5 and 6, respectively.

Chapter 2: The Final Rule

History of the Final Rule

The rulemaking for Vessel Response Plans (VRPs) for salvage and marine firefighting (S&F) is a “second-generation” regulatory project resulting from the Oil Pollution Act of 1990 (OPA 90). We identified the need for identification of S&F resources and acknowledged this in the original VRP rulemaking in a brief and general manner, and we recognized the need to investigate more specific requirements. The following language from the Coast Guard’s 1997 “Regulatory Concept Paper” details its recent activities.

Requirements for salvage and marine firefighting resources in vessel response plans have been in place since February 5, 1993. The existing requirements are general. Owners/operators of vessels carrying groups’ I-IV petroleum oil as a primary cargo must ensure the availability of “...a salvage company with expertise and equipment,” and “...a company with vessel firefighting capability that will respond to casualties in the area(s) in which the vessel will operate.” The Coast Guard did not develop specific requirements because each salvage and marine firefighting situation is unique, and may require different resources for each situation. The Coast Guard’s intent was to rely on the owner/operator to identify contractor resources in order to meet anticipated needs.

As of February 18, 1998, new plans and plans submitted for re-approval were to ensure that identified resources were able to deploy to the port nearest to the vessel’s operating area within 24 hours of notification. The 24-hour requirement was delayed from 1993 to 1998, to provide sufficient time for industry to assess fully the existing capability and to take steps to address any shortfalls. Early in 1997, it became apparent that there was disagreement among planholders, salvage and marine firefighting contractors, maritime associations, public agencies, and other stakeholders as to what constituted adequate salvage and marine firefighting resources. There was also concern as to whether these resources could respond to the port nearest the vessel’s operating area within 24 hours. The Coast Guard held a workshop on August 5, 1997 to address these concerns and major issues concerning salvage and marine firefighting were identified. Three predominant concerns related to the requirements emerged—

1. A clearer definition of salvage and marine firefighting resources was needed.
2. The practicality of the 24-hour requirement required review. Clear start and end points of the requirement needed to be identified.
3. Defining an adequate salvor and marine firefighter was necessary in order to ensure capable salvors and firefighters were identified and incorporated in the plan.

As a result of these and other concerns, the Coast Guard suspended the 24-hour salvage response requirement for further study. Subsequent research and dialogue with industry resulted in a new and more specific proposed regulation, including a roster of detailed S&F requirements and response times for different environments.

Regulatory Baseline

Existing and Original VRP/S&F Rules

Comments raised by the public prompted the Coast Guard to suspend the 24-hour salvage response requirement published in the original S&F rule in 1993. The “existing” rule (without the 24-hour requirement) has been in effect since that time. We present the differences between the original rule and existing rule below.

Original Rule (58 FR 7376) (Published February 5, 1993)

33 CFR 155.1050

Salvage and Marine Firefighting Requirements

(k)(1) The owner or operator of a vessel carrying groups I through IV petroleum oil as a primary cargo must identify in the response plan and ensure the availability of, through contract or other approved means, the following resources—

- (i) A salvage company with expertise and equipment
- (ii) A company with vessel firefighting capability that will respond to casualties in the area(s) in which the vessel will operate

(2) Vessel owners or operators must identify intended sources of the resources required under paragraph (k)(1) of this section. Providers of these services may not be listed in the plan unless they have given written consent to be listed in the plan as an available resource capable of being deployed to the areas in which the vessel will operate.

(3) To meet this requirement in a response plan submitted for re-approval on or after February 18, 1998, the identified resources must be capable of being deployed to the port nearest to the area in which the vessel operates within 24 hours of notification.

Emergency Lightering Requirements

(l) The owner or operator of a vessel carrying groups I through IV petroleum oil as a primary cargo must identify in the response plan and ensure the availability of, through contract or other approved means, certain response resources required by paragraph 155.1035(c)(5)(ii) or 155.1040(c)(5)(i), as appropriate.

- (1) These resources must include—
 - (i) Fendering equipment
 - (ii) Transfer hoses and connection equipment

- (iii) Portable pumps and ancillary equipment necessary to offload the vessel's largest cargo tank in 24 hours of continuous operation
- (2) These resources must be capable of reaching the locations in which the vessel operates within the stated times following notification—
 - (i) Inland (except tankers in Prince William Sound covered by paragraph 155.130), nearshore, and Great Lakes waters—12 hours
 - (ii) Offshore waters and rivers and canals—18 hours
 - (iii) Open ocean waters—36 hours
- (3) For barges operating on rivers and canals as defined in this subpart, the requirements of paragraph (1)(3) may be met by listing resources capable of meeting the response times in paragraph (1)(2) of this section. Such resources may not be identified in a plan unless the response organization has provided written consent to be listed in a plan as an available resource.

Notice of Suspension (63 FR 7069) (Published February 12, 1998)

The notice of suspension suspended the 24-hour requirement (paragraph (k)(3) above) for vessels carrying groups I through IV petroleum.⁴ All of the other provisions of the original rule still apply.

Final Rule

The final rule will revise 33 CFR part 155.1050(k) and (l). Lightering requirements currently under 33 CFR 155.1050(l) are not listed separately in the final rule, but are included as part of the revised salvage requirements. The final rule will also add a new subpart I, which consists of new sections 155.4010 through 155.4055.

Capability

Planholders must identify salvage and marine firefighting resource providers—

- 1) Owners or operators of a vessel carrying groups' I-IV petroleum oil as primary cargo shall identify in their plans, salvage companies that perform the following services.

⁴ The Coast Guard extended the suspension through a federal register notice published on February 9, 2007; the suspension began February 12, 2007 and is valid for another two years until February 12, 2009. The existing rule is the same as the original rule except that the 24-hour requirement (paragraph (k) (3) above) is suspended for vessels carrying groups' I through IV petroleum.

Assessment and Survey

- a) Remote assessment and consultation (i.e., by phone or other communications)
- b) On-site salvage assessment (vessel stability, hull strength and ground reaction estimates, salvage plan initiation)
- c) Assessment of structural stability
- d) Hull and bottom survey

Stabilization

- a) Emergency towing
- b) Salvage plan
- c) External emergency transfer operations
- d) Emergency lightering (separate vessel), including new pumping specifications
- e) Other refloating methods (pontoons, scouring, air compression)
- f) Making temporary repairs (shoring, patching, drill stopping, structural reinforcement)
- g) Diving services support

Heavy Lift and Deep Water Oil Removal

- a) Special salvage operations plan
 - b) Subsurface product removal to the maximum depth practicable⁵
 - c) “Heavy lift” operations
- 2) Owners or operators shall identify marine firefighters with these capabilities—

Assessment and Planning

- a) Remote assessment and consultation
- b) On-site fire assessment

Fire Suppression

- a) External firefighting teams
 - b) External firefighting systems (fire tugs, vessel of opportunity portable systems)
- 3) Planholders are required to ensure response activity time frames for salvage and marine firefighting services as shown in Table 2.

⁵ Subsurface product removal means the safe removal of oil from a vessel that has sunk or is submerged partially underwater. These actions can include pumping or other means to transfer the oil to a storage device.

The notable changes from the NPRM are the column headings and the estimated time for “heavy lift” services, which we changed to estimated. All of the other response times listed have not changed since the proposed rule. See Table 2 below.

Table 2. S&F Response Activity Time Frames

Service	CONUS: Nearshore area; inland waters; Great Lakes; and OCONUS: ≤ 12 from COTP city (hours) ⁶	CONUS: Offshore Area;⁷and OCONUS: ≤ 50 miles from COTP City (hours)
Salvage		
<i>Assessment and survey</i>		
Remote assessment and consultation	1	1
Begin structural and stability assessment	3	3
On-site salvage assessment	6	12
Assessment of structural stability	12	18
Hull and bottom survey	12	18
<i>Stabilization</i>		
Emergency towing	12	18
Salvage plan	16	22
External emergency transfer operations	18	24
Emergency lightering	18	24
Other refloating methods	18	24
Making temporary repairs	18	24
Diving services support	18	24
<i>Specialized salvage operations</i>		
Special salvage operations plan	18	24
Heavy lift*	<i>Estimated</i>	<i>Estimated</i>
Subsurface product removal	72	84

Marine firefighting	At Pier (hours)	CONUS: Nearshore area; inland waters; Great Lakes; and OCONUS: ≤ 12 from COTP city (hours)	CONUS: Offshore Area; and OCONUS: ≤ 50 miles from COTP City (hours)
<i>Assessment and planning</i>			
Remote assessment and consultation	1	1	1
On-site fire assessment	2	6	12
<i>Fire suppression</i>			
External firefighting teams	4	8	12
External vessel firefighting systems	4	12	18

*Heavy lift services do not require definite hours for a response time. The planholder must still contract for heavy lift services, provide a description of the heavy lift response and an estimated response time when these services are required, however, none of the time frames listed in the table in § 155.4030(b) will apply to these services.

⁶ “Nearshore area” means the area extending seaward 12 nautical miles from the boundary lines defined in 46 CFR 7, except in the Gulf of Mexico. In the Gulf of Mexico, a nearshore area is one extending seaward 12 nautical miles from the line of demarcation (COLREG lines) as defined in Paragraphs 80.740 through 80.850 of this chapter. “Inland area” means the area shoreward of the boundary lines defined in 46 CFR 7, except that in the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) as defined in Paragraphs 80.740 through 80.850 of this chapter. The inland area does not include the Great Lakes. “OCONUS” means outside the continental United States.

⁷ “Offshore area” means the area up to 38 nautical miles seaward of the outer boundary of the nearshore area.

Determination of Adequacy

The final rule will add the following two criteria (in addition to the other criteria listed in the Federal Register) below to section 155.4050 (see this section of the regulatory text of the final rule for the other 13 existing criteria) for planholders to determine the adequacy of salvage and marine firefighting private resources and develop an agreement for services by contract or other approved means that includes a written funding agreement. The two criteria listed below are in addition to the 13 existing criteria. All of the criteria combined do not impose costs on the planholder since the planholder must only consider the criteria when listing a resource provider in its vessel response plan. The worker health and safety item listed below points to an existing Occupational Safety and Health Administration (OSHA) provision found in 29 CFR 1910.120(q).

- *Worker health and safety.* Your *resource providers* must have the capability to implement the necessary engineering, administrative, and personal protective equipment controls to safeguard their workers when providing *salvage* and *marine firefighting* services, and;
- A *resource provider* has familiarity with the marine firefighting and salvage operations contained in the local Area Contingency Plans for each COTP area they are being contracted for

Summary of S&F Rulemaking

Original Rule (58 FR 7376) (Published February 5, 1993)

The original S&F rule required—

- Carriers of groups I through IV petroleum products to identify salvage, marine firefighting, and emergency lightering resources in their vessel response plans
- Salvage and marine firefighters to be deployed within 24 hours to the port nearest the incident

Notice of Suspension (63 FR 7069) (Published February 12, 1998)

The notice of suspension is the same as the original rule, without the 24-hour requirement.

Final Rule

The final rule requires—

- Carriers of groups' I through IV petroleum products to identify specific salvage and marine firefighting resource providers, including emergency lightering, in their VRPs and develop contracts or other approved means that include signed, written funding agreements with the resource providers;
- Salvage and marine firefighting resources to give written permission to be included in plans;
- Salvage and marine firefighters to be able to respond according to specified tiered response times;

- Carriers of groups' I through IV petroleum products to certify that they have considered the selection criteria for the salvage and marine firefighting resource providers, and;
- The final rule will remove the response time requirement for heavy lift services

Impacted Parties

The parties affected by this final rule and identified for the purposes of this regulatory assessment are the same as the existing rule and include the following—

- VRP planholders (i.e., those owners and operators of tank vessels regulated by OPA 90);
- VRP preparers (i.e., firms and individuals qualified to develop response plans for approval by the Coast Guard and implementation by the planholders);
- Marine salvors;
- Marine firefighters;
- Protection and Indemnity (P&I) Clubs, insurers responsible for oil spill liability;
- Remote assessment and consultation contractors (i.e., those responsible for maintaining electronic files on stability and hull structures and providing technical advice to the salvors on-site), and;
- Assistant Commandant for Maritime Safety, Security, and Stewardship (CG-5), Marine Safety Center Salvage Engineering Response Team (SERT), and Coast Guard Sector/COTP Zone Response Departments.

Alternatives

The Coast Guard considered two alternatives to this rulemaking, (1) to make no changes and leave the 24-hour response time, and (2) to require specific equipment types and amounts in combination with response times. We rejected the first alternative because industry did not meet the original requirements. We rejected the second alternative because of the enormous burden that planholders and the Coast Guard would incur. Please refer to Chapter 5: Final Regulatory Flexibility Act Analysis for a discussion of the alternatives considered in order to minimize the impact on small businesses.

Chapter 3: Discussion of Price of Equipment, Other Services, and Salaries for the Final Rule

As we prepared the analysis for the final rule, we initially thought that marine salvage and firefighting companies would pass the costs of equipment, paperwork, and recordkeeping onto planholders in the form of retainer fees. However, through our survey to industry representatives and follow-up telephone conversations, we found that the marine salvage and firefighting industry does not charge retainer fees in order to recover costs for equipment and other related expenditures in response to salvage and firefighting and other incidents. We found that providers primarily recover the costs for equipment and other expenditures through related services and contracted work. None of the four companies that responded to our survey charged retainer fees for their services and these companies together represent about 60 percent of the industry based on the number of plans submitted to the Coast Guard.

Based on our discussion below, we contend that the costs of this rule, since 2002, have been significantly reduced to a point where we do not believe that the final rule will impose the costs that we previously estimated for the proposed rule due to a resource and capability buildup that industry agreed was no longer necessary. In addition, salvage and firefighting companies have not charged retainer fees for their services in order to recoup the costs made through the course of normal business operations during the past six years.

Costs Estimated for the Proposed Rule and the Business Environment of the Salvage and Firefighting Industry

We originally estimated the total present value cost of the proposed rule to be about \$491 million over the period of analysis, 2001-2030, with initial costs estimated to be about \$128 million. From our discussions with industry representatives, public comments, and information that we received from responses to our questionnaire, we contend that the state of the industry no longer warrants the massive buildup of resources envisioned in the regulatory analysis for the NPRM. We learned that salvage and firefighting companies owned most, if not all of the required equipment and they acquired the remaining equipment in response to other business needs in the course of their normal daily operations.

We estimated initial costs to be about \$128 million during the initial year for the buildup of equipment by the salvage and firefighting industry to meet the requirements of the proposed rule. Of the \$128 million in expenditures that we estimated would have been needed under the requirements of the proposed rule, emergency towing, emergency lightering, and heavy lift equipment on the salvage side were the most costly items during the initial year. Combined, these three items comprised about \$116 million of the \$128 million total initial cost of the rule, notwithstanding costs for deep subsurface product removal and other refloating repairs, which combined, equal about \$2.0 million. The balance of about \$10 million we estimated was for firefighting equipment. Combining salvage and firefighting, we estimated the total present value cost of the proposed rule for equipment and resource expenditures to be about \$371 million (7 percent discount rate) over the analysis period, 2001-2030.

Table 3 below shows the initial cost estimated for each salvage item that represent the most costly items during the initial year.

Table 3. Highest Estimated Costs of Salvage Equipment in 2002 (\$Millions)

	Initial Cost (Estimated)
Emergency Towing	\$67.1
Heavy Lift	\$42.9
Emergency Lightering	\$5.8
Total	\$115.8

Since 2002, industry acquired much of the capacity discussed in the proposed rule for what industry calls a “range of services”, where the equipment is not only for use in salvage and firefighting operations, but other commercial operations such as marine construction and repair, wreck removal, dredging, and surveying. Over the past six years the business environment provided incentives for industry to increase capacity and then consolidate. This increase came over time as companies met the needs of customers through services and contract work other than salvage and firefighting operations. From our discussions with industry, we do not believe that past equipment and resource expenditures were a result of the proposed requirements of the NPRM and industry comments.

Final Rule Cost Impact

Based on our discussion above and the state of the industry over the past six years, we can essentially subtract the costs for the equipment mentioned above since industry did not purchase this equipment specifically to meet the requirements of the proposed rule. Regarding heavy lift, the second most costly item: heavy lift is considered a “specialized salvage operation” and industry strongly disagreed with our requirement in the proposed rule that it must acquire and stage this equipment to be able to respond to an incident within certain time constraints since it is difficult to deploy this equipment within a specified time because of its great size, which explains why industry disagreed with our proposed requirement to stage this equipment under certain time constraints. This led to our cost estimate of approximately \$43 million for this requirement. Heavy lift equipment is and has been a part of the normal business operations of the salvage industry long before the promulgation of this rule; a company will not purchase this equipment unless it sees a use for it and can recover its cost through daily business operations. It is used specifically for civil construction projects with a “marine content” such as bridges, tunnels, and oil drilling platforms. Therefore, for the final rule, we removed the costly heavy lift time requirement and the associated estimated cost of approximately \$43 million.

Similarly, emergency lightering and towing are and have been a part of a company’s normal business operations and existed in the industry preceding the issuance of the proposed rule. Salvage companies use this equipment frequently as they realize a rate of return on equipment that is not idle. Furthermore, industry has been utilizing tugs for many years for other work as part of its daily business operations. Removing the costs for these items further reduces the initial cost that we estimated for the proposed rule by about \$72.9 million (\$67.1 for emergency towing and \$5.8 for emergency lightering). Including heavy lift, the initial cost of the rule is now reduced by the full amount of about \$128 million including approximately \$10 million for firefighting equipment in addition to the annual costs of firefighting equipment, or about \$0.9 million. Furthermore, for salvage and firefighting equipment expenditures, the present value cost of \$371 million estimated for the proposed rule over the period 2001-2030 can be reduced.

We can also subtract the associated annual costs with the maintenance and upkeep of this equipment that we estimated for the proposed rule. Emergency towing and heavy lift equipment account for a majority of the annual costs or about \$16.7 of the estimated \$20.9 million with additional ancillary costs. These costs were originally included in the total present value cost of about \$389 million for salvage alone over

the period of analysis, which includes personnel and paperwork costs associated with the buildup of this equipment. We estimated planholder paperwork cost for the proposed rule of about \$8.5 million during the initial year with a total present value cost of about \$24 million during the period of analysis. Most of this cost we can subtract from this rulemaking since it is also associated with the industry buildup of resource capacity outside of the rulemaking. We present the ongoing recordkeeping and paperwork costs, albeit to a far lesser extent, for planholders later in this chapter.

We can also remove personnel and paperwork costs associated with the resource buildup of firefighting equipment that we estimated for the proposed rule. We estimated these costs to be about \$4 million and \$19 million respectively or about present value \$57 million over the period of analysis.

Lastly, the catastrophe of Hurricane Katrina provided a buildup of salvage response infrastructure in the Gulf of Mexico. Salvage companies and the maritime industry coordinated with federal, state, and private sector organizations. Contracts were developed with the cleanup effort in the aftermath of the hurricane. This contributed significantly to the increase in the response infrastructure of the salvage industry.

Information contained in the sections below came from responses to our industry questionnaire. The primary purpose of our questionnaire was to update the prices of equipment, salaries and/or labor rates, training, and recordkeeping (for expository purposes) as six years have passed since the publishing of the NPRM, in addition to updating the currently-approved OMB collection of information. We present these updated prices obtained from our questionnaire in Appendix A at the end of this report.

Affected Parties

The affected parties include: (1) salvage companies, (2) marine firefighting companies, (3) planholders, (4) companies that are hired to write VRPs for planholders (plan preparers), and (5) the U.S. Coast Guard

Planholders will continue to incur paperwork burdens that may include the preparation of the S&F portions of the VRP, record creation and recordkeeping, contract negotiations with S&F companies, and the certification of their qualifications. Planholders will either prepare their own S&F plans or hire one of the plan preparation companies to do it for them. Planholders may in turn pass these costs on to consumers. However, these are not regulatory costs as a result of this rule and they continue to be part of an industry practice; they are adjustments to an existing collection of information. Finally, the Coast Guard would still incur a burden, as before, for enforcement and inspection, record creation, and recordkeeping.

Salvage Elements under the Final Rule

Deep Subsurface Product Removal Kit

Based on industry information, we assume that this equipment is in place in the industry and does not represent a compliance cost. One respondent provided a lone price estimate for this item of approximately \$175,000 (we assume annual maintenance cost of 10 percent of the unit price). A majority of the remaining equipment prices appear in Appendices A and B.

The system includes hydraulic power source, hose assemblies, hot tap machine, motor, valve adapters, gate valve, flange adapters, cutters, cutter holders, and pilots.

Contracting and Leasing Equipment

Through our questionnaire, we obtained clarifying industry information regarding the leasing of equipment and the possibility of subcontracted work. One respondent stated that the leasing of equipment and the need for subcontracted work was not necessary. Another respondent stated that most of the work is performed in-house and one item would need to be subcontracted. Another respondent stated that no equipment is leased.

Marine Firefighting Elements under the Final Rule

The status of marine firefighting equipment and the qualifications of local firefighting resources vary among the Captain of the Port (COTP) zones. The boundaries between public and private firefighting jurisdictions for fires at piers, in harbors, in near-coastal waters, and ocean environments vary. Many of the fires onboard vessels are small, such as galley, electrical wiring, or engine room fires, which the crew handles. For large fires involving the cargo, vessel owners indicated they would call one of the major national firefighting companies rather than rely on local resources. These companies typically have “flyaway” firefighting equipment packages that are put “on the next flight” or deployed by air transport to arrive with the firefighters. We did not obtain any information from the respondents that a response to an incident would be problematic with the current resources and infrastructure in place.

Through our questionnaire, we obtained information from respondents for the price of a standard “flyaway” package of firefighting equipment and materials including salaries of employees associated with this package. We present these prices in Appendix B at the end of this report.

Planholders and Plan Preparers

We obtained updated planholder and plan preparer population figures from the Coast Guard’s Office of Vessel Activities. As of late summer 2007, there are approximately 37 tank vessel planholders and 138 tank barge planholders who write their own plans.⁸ There are approximately 33 plan preparer companies (that provide plan-writing services to planholders) that represent 566 tank vessel plans and 56 tank barge plans for a total of 622 plans. Combined, there are approximately 797 total plans in the Coast Guard’s vessel response plan database.⁹ Planholders account for 175, or about 22 percent of the total tank vessel plans prepared and plan preparers account for 622 tank vessel plans prepared, or about 78 percent of the VRPs in the database. Planholders represent about 3,598 tank vessels, or about 51 percent of the total tank vessels and plan preparers represent about 3,466 vessels, or about 49 percent of the total of 7,064

⁸ Most planholders have one plan that includes all of their vessels, but some planholders have multiple plans that disaggregate their vessels by vessel type, location, or other criteria. This includes active and approved plans.

⁹ The total number of plans, 797, includes active and approved plans plus eight pending plans.

tank vessels. A small number of planholders hire plan preparers to write their plans, but list themselves as the plan preparer in their VRPs. See Table 4 below for a summary of the planholders and plan preparer statistics.

Table 4. Summary of Plans and Vessels by Planholders and Plan Preparers

VRP Preparers	Number of Plans (Percent)	Number of Vessels (Percent)
Tank Vessel Planholders	37 (5%)	272 (4%)
Tank Barge Planholders	138 (17%)	3,326 (47%)
Prepared Plans (prepared by 33 companies)	622 (78%)	3,466 (49%)
Totals	797	7,064

We estimate the total burden hours of this rule for plan preparers and planholders for annual recordkeeping and paperwork to be approximately 19,925 hours with an associated cost of approximately \$1.2 million (non-discounted). This includes managerial and clerical work with an estimated time burden of 20 hours and 5 hours, respectively for each plan. We obtained staff rates from the Bureau of Labor Statistics (BLS), Occupational Employment Statistics website, <http://www.bls.gov/ces/home.htm>. We estimated the cost per hour for managerial staff for both a planholder and a plan preparer to be about \$70/hour. We used the mean hourly rate for general and operations managers, or \$49.87 and we multiplied this rate by a load factor of 1.4 to obtain \$70/hour (rounded). Similarly, for clerical staff, we used the average of three different office clerk rates, or about \$15/hour $[(\$16.03 + \$15.84 + \$13.3)/3]$ and multiplied this by 1.4 to obtain \$21/hour. We used a labor load rate of 1.4, which we found to be a standard rate for persons performing this type of work. The “loaded” labor rate is what a company pays per hour to employ the person, not what the person makes in hourly wages. The loaded labor rate includes the cost of benefits (health insurance, vacation, etc.).

Chapter 4: Benefit of Final Rule

This rule provides an efficiency benefit that will result in reduced response times. Current planholders will be able to make arrangements and contract with resource providers before future events occur, therefore, reducing future response times. The rule ensures that the appropriate salvage and marine firefighting resources are identified and available for responding to incidents up to and including worst case discharges. This rule will assist in restoring maritime transportation related commerce after a navigation or security event. The rule also provides clarification to the existing requirements found at 33 CFR 155.1050 which are general and only require that a planholder identify salvage and marine firefighting resources.

Ultimately, reduced response time may result in barrels of oil not spilled after an event occurs. The Coast Guard examined spill incidents from casualty cases for tank ships and tank barges for the period 2002-2006. This period appeared relevant for evaluation since the Coast Guard published the original VRP rule in January 1996 and since several years had elapsed since OPA 90, thus allowing time for OPA 90 related rules to have an effect on the amount of oil that was being spilled into the water from tanker incidents. We found that spill volume had decreased during this period in contrast to the years just following OPA 90. However, the Coast Guard considers this rule will assist in mitigating the impacts of future low-risk, high-consequence worst case discharges. In response to these events, salvage and marine firefighting capability will be critical to restore commerce on U.S. waterways.

We consider the efficiency gains to be the primary benefit of this rule. We also consider the overall programmatic benefits of salvage and firefighting capability to range from efficiency gains to mitigating the impacts of worst case discharge events. Additionally, the benefit assessment of the NPRM estimated future barrels of oil not spilled associated with a buildup of industry resource capabilities that were not available at the time of the proposed rule. The NPRM assessment provides a view of the benefits that have taken place over the last six years due to industry design, not Coast Guard regulation, as spill volumes have decreased.

The following sections discuss the benefits estimated for the proposed rule, the current trend in spill volume since 2002, and potential benefits in worst case discharge events. This provides both historical and future perspectives of the derivation of the benefits associated with salvage and marine firefighting.

Summary of Benefit of Proposed Rule

The total benefit calculated in the regulatory assessment for the NPRM is the difference between the estimated amounts of oil spilled without the rule in effect and with the rule in effect. These benefits are measured in barrels of oil not spilled and is the product of the projected baseline oil spill quantities in the absence of the rulemaking and the effectiveness factors attributable to the rulemaking. For the NPRM, we presented the unit of measurement for benefits in terms of barrels of oil not spilled. We then divided total costs in dollars by total benefits in barrels to estimate the cost effectiveness or how much it will cost society to keep each barrel of oil from being spilled. For more information on the benefits of the proposed rule, see the regulatory assessment in the docket USCG-1998-3417.

Using projected oil spills by vessel type, an expert panel developed effectiveness factors (i.e., the quantified effect of the proposed rule) for tank ships, coastal barges, and inland barges.¹⁰ We applied

¹⁰ A panel of industry experts developed effectiveness factors by considering accidents and spills since the enactment of OPA 90 (1992-1997 casualty and spill history from Coast Guard data).

these effectiveness factors to different accident types and for spill volumes of 1,000 gallons or greater, which is relevant for most salvage operations.¹¹ These effectiveness factors measured the effect the rulemaking in terms of 1) spill prevention and 2) mitigation of spill size given the probability of a spill event, the type of accident, and the average outflow of a spill event. We applied these effectiveness factors to historical spill data to forecast future benefits.

For example, an effectiveness factor for tank ship allisions of 0.82 indicates that the number of allisions resulting in spills with the proposed rule in effect would equal 82 percent of those allisions resulting in spills without the rule. Likewise, an effectiveness factor for tank ship collisions of 0.75 for average outflow means that the average discharge volume resulting from a collision with the proposed rule in effect would equal 75 percent of that resulting without the rule. An effectiveness factor equal to 1.00 indicates that the proposed rule would have no effect. Table 5 below shows the effectiveness factors that we used to quantify the benefits of the proposed rule.

Table 5. Effectiveness Factors

Casualty Type	Probability of Oil Spill Given a Casualty	Effectiveness Factor
Allision		
Tank ship	0.95	0.82
Tank barge	0.95	0.83
Collision		
Tank ship	0.95	0.75
Tank barge	0.95	0.76
Grounding		
Tank ship	0.95	0.72
Tank barge	0.95	0.62
Fire		
Tank ship	1.00	1.00
Tank barge	1.00	0.80
Explosion		
Tank ship	1.00	0.76
Tank barge	1.00	0.84
Structural failure		
Tank ship	1.00	0.85
Tank barge	1.00	0.61

* Average Discharge Volume Ratio

¹¹ We based the spill baseline on spill data and historic oil transport data for the period 1992-1997. While spill data for the period 1992-1999 were available, oil transport data were only available for the period 1992-1997. The history of oil spills in U.S. navigable waters and the Exclusive Economic Zone (EEZ) is recorded in the Coast Guard's Marine Safety Management System (MSIS) database. Spills greater than 1,000 gallons were considered most likely to involve the use of salvage resources, including those resulting from casualties (allision, collision, grounding, fire, explosion, equipment failure, and structural failure) of underway tank ships and tank barges. We did not consider smaller spills (less than 1,000 gallons) and those resulting from "operations" (loading, lightering, bunkering) because these spills would not be affected by the proposed S&F regulations. We collected spill baseline from data representing past experience and projecting recent trends into the future. This was necessary to project a future base case scenario that would represent the future hypothetically without the rule in effect. To accomplish this, we used historical bulk transportation statistics from 1973-1995 per the U.S. Army Corps of Engineers (ACOE) *Waterborne Commerce of the United States (WCUS) Part 5 National Summaries* for tankers and barges that carry crude oil and petroleum products in U.S. navigable waters and the Exclusive Economic Zone (EEZ). By utilizing this method, the idea is to have the past average spill data projected forward to represent the future adequately. Given such a projection of yearly quantities of spills from each spill source to serve as the base case, estimated effectiveness factors attributable to each S&F provision may be applied to the baseline oil spills to estimate the potential reduction in future spills.

In the regulatory assessment for the proposed rule, we estimated the present value (PV) of barrels of oil not spilled using a 7 percent discount rate over the 30-year period 2001-2030 and estimated the total barrels of oil not spilled to be about 87,282 barrels for all three vessel types.¹² We estimated the cost effectiveness of the rulemaking to be the PV cost (in dollars) divided by the PV of the oil not spilled (in barrels) as a result of the rulemaking. Our estimates indicated that the cost effectiveness of the proposed rule would be \$5,634 (\$491.7 million/87,282 barrels), or approximately \$5,600/barrel. This means it costs society \$5,600 to keep each barrel of oil from being spilled into the water.

Current Trend in Spill Data (2002—2006)

We examined spill incidents from casualty cases for tank ships and tank barges for the period 2002-2006. This period appeared relevant for evaluation since the Coast Guard published the original VRP rule in January 1996 and since several years had elapsed since OPA 90, thus allowing time for these rules to have an effect on the amount of oil that was being spilled into the water from tanker incidents. Our findings suggest that spill frequency and volume had decreased dramatically during this period in contrast to the years just following OPA 90.

We evaluated spill data from our Marine Information Safety and Law Enforcement (MISLE) database for relevant spills, equal to or greater than 1,000 gallons, that occurred in U.S. navigable waters and the EEZ for the period 2002-2006. We examined a total of 9-spill cases.¹³ Table 6 shows the number of spill incidents (greater than 1,000 gallons) by vessel type over the 5-year data period. Individual casualty case information for each accident by vessel type and amount of oil spilled appears in Appendix C.

**Table 6. Salvage & Firefighting Affected Spills
≥ 1,000 Gallons in U.S. Waters (2002-2006)**

	2002	2003	2004	2005	2006	Total
Tank Ship	1	0	1	1	0	3
Inland Barge	1	0	2	1	0	4
Coastal Barge	0	0	0	2	0	2

We examined individual casualty cases to determine the location of the spills, the casualty type (allision, collision, grounding, fire, explosion, and structural failure), and the volume of oil that was spilled into the water from each incident.

Table 7 shows the total volume of oil spilled (in gallons) by vessel type during each year of the data period (undiscounted). We observed two out of five years, 2003 and 2006, there were no spills that met our criteria for consideration under this rulemaking. We found that tank ships and inland barges spilled the most volume.

¹² 42 gallons = 1 barrel.

¹³ There were more than 9 spill incidents during this period; however, some spills were deleted from this analysis since it was indeterminable in several casualty reports how a particular incident occurred or how much oil was actually spilled.

**Table 7. Summary of Annual Baseline Spill Volume
by Vessel Type in Gallons of Oil (2002-2006)**

Year	Tank Ships	Inland Barges	Coastal Barges	Total
2002	1,000	13,725	0	14,725
2003	0	0	0	0
2004	263,382	209,244	0	472,626
2005	2,500	13,500	11,000	27,000
2006	0	0	0	0
Total	266,882	236,469	11,000	514,351
Average/Year	53,376	47,294	2,200	102,870

Totals may not sum due to independent rounding.

The average spill volume (in gallons) per year is 53,376 gallons for tank ships, 47,294 gallons for inland barges, and 2,200 gallons for coastal barges. The average spill volume (in gallons) per year for all three vessels types is 102,870 gallons. Converted to barrels, the approximate average spill volume per year is 1,271 barrels for tank ships, 1,126 barrels for inland barges, and 52 barrels for coastal barges. The average spill volume (in barrels) per year for all three vessels types is 2,449 barrels.

Benefits of Salvage and Marine Firefighting Effectiveness and Worst Case Discharges

The Coast Guard considers this rule will assist in mitigating the impacts of future low-risk, high-consequence worst case discharges. We considered recent spill history and worst case discharge (WCD) data for additional measures of potential benefits from salvage and marine firefighting.

The general approach was to-

- Establish a projected spill baseline for the different types of vessels (coastal barges, inland barges, and tank ships) by proportionately adding WCD spill volume to our baseline data set to depict a scenario that may occur in the future, if a large spill were to happen, and its effect on the benefit analysis, and;
- Retain and apply the same effectiveness factors that were developed for the proposed rule and apply these factors to the adjusted WCD spill volumes for each vessel type to yield a volume of oil not spilled. We did not reduce any of the effectiveness factors as a result of removing the response time requirement for heavy lift operations because heavy lift is a remedial action that would not lend effectiveness to the casualty scenarios presented in this analysis. In addition, the response times previously proposed in the NPRM would relegate heavy lift operations negligible because operations would have been underway long before heavy lift equipment arrived at the scene (see Table 2 for a listing of response times).

To remain consistent with the benefit methodology in the assessment of the proposed rule, we assume that benefits accrue beginning in the first period of the assessment period, or 2009. Benefits (in barrels of oil not spilled) were discounted (7 and 3 percent discount rates) to their PV over the period 2009-2018.¹⁴

¹⁴ Barrels are discounted to compare monetized and non-monetized costs and benefits over time. This is similar to EPA guidance on social discounting (EPA, Guidelines for Preparing Economic Analysis: 2000. Section 6.4.2 "When Discounting Non-Monetized Effects Is Appropriate," pp 53-54). It is also discussed in OMB guidance on social discounting, non-monetized

We used historical spill volume data for the period 2002-2006 (see Table 7) to project a future spill baseline and vessel type distribution over the period 2009-2018. As mentioned above, this data includes only spills of 1,000 gallons or greater which are most relevant to salvage and marine firefighting operations. We also estimated potential WCD volumes for all three vessel types and proportionately distributed this volume by vessel type. We then adjusted these spill volumes using the effectiveness factors from the proposed rule and projected barrels of oil not spilled by this rule for the period 2009-2018. For the purposes of this projection, we estimate that an oil spill event causing a WCD may occur once every 10 years.

We obtained WCD data for all three vessel types using current vessel response plans (VRPs) that have been submitted to the Coast Guard. VRPs contain actual cargo capacity data for vessels affected by this rule. These cargo capacities can be used to estimate worst case discharge volumes (without non-cargo volume) for vessels affected by the rule. Although this data does not reveal the probability of worst case discharges, we can use the data along with the effectiveness factors from the NPRM assessment to present an adjusted WCD benefit using barrels of oil not spilled as a result of salvage and marine firefighting capacity and this rule.

We developed two WCD benefit scenarios using a weighted average WCD for all affected vessel types (regardless of cargo capacity) and an average upper-bound WCD for large capacity tank ships with over 1,000,000 barrels of cargo capacity.

Table 8 shows the projected average WCD scenario spill amounts for all vessels types over the 10-year assessment period, 2009-2018.¹⁵

Table 8. Projected Adjusted Spill Amounts using Weighted Average WCD data in Gallons, (2009-2018)*

	Tanker Ships	Inland Barges	Coastal Barges	Total (Non-discounted)	Total PV Benefit (7%)	Total PV Benefit (3%)
2009	622,906	102,746	48,906	774,558	723,886	751,998
2010	622,906	102,746	48,906	774,558	676,529	730,095
2011	622,906	102,746	48,906	774,558	632,270	708,830
2012	622,906	102,746	48,906	774,558	590,907	688,185
2013	622,906	102,746	48,906	774,558	552,249	668,141
2014	622,906	102,746	48,906	774,558	516,121	648,680
2015	622,906	102,746	48,906	774,558	482,356	629,787
2016	622,906	102,746	48,906	774,558	450,800	611,443
2017	622,906	102,746	48,906	774,558	421,308	593,634
2018	622,906	102,746	48,906	774,558	393,746	576,344
			Total in gallons	7,745,580	5,440,171	6,607,137
			Total in barrels	184,419	129,528	157,313

* Adjusted using the effectiveness factors from the NPRM. Totals may not sum due to rounding.

consumption, and the time preference for non-monetized benefits and costs. We frequently discount barrels of oil not spilled (mitigated) so we can account for future impacts.

¹⁵ Remaining consistent with the proposed rule, we again assume constant spill volumes for inland barges since these vessels are primarily double hulled. We also assume constant spill volumes for tank ships due to the double hull replacement schedule of these vessels. We expect coastal barge spill volume to remain constant through the assessment period (2009-2018).

The results of our analysis are summarized in Table 9 below. Total PV benefit for the weighted average WCD scenario using data for all affected vessel types (regardless of cargo capacity) is 129,528 barrels of oil not spilled or 157,313 barrels of oil not spilled at 7 or 3 percent discount rates, respectively (values rounded). Table 9 summarizes the average WCD scenario of PV barrels of oil not spilled over the 10-year period.

**Table 9 (A). Summary of Average WCD Scenario
(2009-2018, 7 and 3 Percent Discount Rates)***

	Tank Ships	Inland Barges	Coastal Barge	Total
PV Gallons not Spilled (7 percent)	4,375,031	721,645	343,495	5,440,171
PV Barrels not Spilled (7 percent)	104,167	17,182	8,179	129,528
PV Gallons not Spilled (3 percent)	5,313,515	876,444	417,178	6,607,173
PV Barrels not Spilled (3 percent)	126,512	20,868	9,933	157,313

*Totals may not sum due to rounding.

The table above summarizes the average WCD scenario using cargo capacity data for all vessel types affected. Another way to examine a WCD scenario is by analyzing the upper bound (highest level) of WCD data rather than an average WCD that includes both relatively small tank barge cargo capacities as compared to relatively large tank ship capacities. This would adjust for spills well below what may actually happen in a worst case event (i.e., the upper bound of spill volume that may occur). Because tank ships represent the largest capacity per tank vessel type, we estimated an average upper-bound WCD for tank ships with over 1 million barrels of cargo capacity. This would include the capacity of large tank ships such as Very Large Crude Carriers (VLCCs) that can carry over 2 million barrels of oil per voyage.¹⁶ We still used weighted average WCD tank barge estimates due to the variety of small and large tank barge cargo capacities. When estimating an upper bound WCD scenario from this perspective, the total PV benefit over the 10-year period is about 1.2 million barrels of oil not spilled or 1.5 million barrels of oil not spilled at 7 or 3 percent discount rates, respectively (values rounded). Table 10 summarizes the upper bound WCD scenario of PV barrels of oil not spilled over the 10-year period.

**Table 9 (B). Summary of Upper Bound Average WCD Scenario
(2009-2018, 7 and 3 Percent Discount Rates)***

	Tank Ships**	Inland Barges	Coastal Barges	Total
PV Gallons not Spilled (7 percent)	50,215,811	721,645	343,495	51,280,952
PV Barrels not Spilled (7 percent)	1,195,615	17,182	8,179	1,220,975
PV Gallons not Spilled (3 percent)	60,987,554	876,447	417,178	62,281,179
PV Barrels not Spilled (3 percent)	1,452,085	20,868	9,933	1,482,885

* Totals may not sum due to rounding.

**Tank ship WCD is based on average capacity of tank ships with maximum cargo capacity over 1,000,000 barrels; tank barges held at average WCD of all tank barges.

¹⁶ Note: the *Exxon Valdez*, now named the *Sea River Mediterranean*, is a VLCC with a maximum capacity of 1.48 million barrels of crude oil.

Chapter 5: Final Regulatory Flexibility Act Analysis

Need for Final Regulatory Flexibility Analysis

We have prepared this Final Regulatory Flexibility Analysis (FRFA) to examine the impacts of the final rule on small entities as required by the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*). A small entity may be—

- A small business, defined as any independently owned and operated business not dominant in its field that qualifies as a small business per the Small Business Act (15 U.S.C. 632)
- A small not-for-profit organization
- A small governmental jurisdiction (locality with fewer than 50,000 people)

In the regulatory analysis for the proposed rule, we identified approximately 191 planholders as potential small entities and found that the proposed rule would have a less than 10 percent impact on over 90 percent of them based on a total of 710 estimated planholders. We based this analysis partly on retainer fees charged by service providers which we now know is not a common business practice within the industry. In the IRFA for the proposed rule, we estimated first year retainer fee costs to be approximately \$83,000 per small entity and we estimated first year paperwork costs to be about \$13,000 per small entity for a total of almost \$100,000 per small entity during the first year. Annually, we estimated the retainer fee cost and paperwork cost to be about \$16,000 and \$2,500 per small entity, respectively.

In this FRFA for the final rule, we estimated the number of planholders increased slightly to about 797. Therefore, based on this increase, the number of planholders as small entities increased marginally with small entities representing only about 24 percent of the total number of planholders. Through our contact with industry representatives, we also learned that industry does not charge retainer fees as part of its business model in order to recoup costs for services that it provides to planholders. Removing the costs associated with retainer fees as mentioned above reduces the costs that we initially estimated in the proposed rule or about \$83,000 per small entity. In addition, paperwork costs have been reduced from \$2,500 annually as estimated in the IRFA to about \$1,500 annually per small entity for the FRFA. Therefore, based on our analysis of costs and the state of the industry during the past six years as discussed previously in this report, it is unlikely that this rule would have a significant economic impact on more than 1% of the small entities since we estimate ongoing paperwork costs of the rule to be approximately \$1.2 million annually or about \$1,500 annually per planholder, including any small entities. Therefore, we anticipate that this rule would not have a significant economic impact on a substantial number of small entities.

This FRFA addresses the following.

- A succinct statement of the need for the rule, and objectives of the rule;

- A summary of the significant issues raised by the public comments in response to the IRFA, a summary of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments;
- A description and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;
- A description of the projected reporting, recordkeeping, and other compliance requirements of the rule, including an estimate of the classes of small entities that will be subject to the requirement and the types of professional skills necessary for preparation of the report or record;
- A summary of the steps the agency has taken to minimize the significant adverse economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each of the other significant alternatives to the rule considered by the agency was rejected, and;

We discussed these issues briefly in other sections of this RA. We broadly address some of these issues here and refer the reader to the applicable sections where more detail can be found.

Succinct Statement of the Need for and Objectives of Rule

Revisions to 33 CFR 155 are necessary in order to provide VRP holders (owners or operators of vessels carrying oil) clearer guidance on what salvage and marine firefighting resources need to be identified in their VRPs. Clearer guidance will provide increased assurance that the appropriate salvage and marine firefighting capabilities are identified and available for responding to a worst-case discharge. The reader can find greater detail in Chapter 1.

The need of the final rule is to provide clearer guidance on what salvage and marine firefighting requirements need to be identified in vessel owners' VRPs. The Oil Pollution Act of 1990 (OPA 90) included authority for the Coast Guard to require and regulate oil spill contingency plans for tank vessels. The VRP salvage and marine firefighting requirements are found in 33 CFR 155, which the final rule will revise. The Federal Water Pollution Control Act (FWPCA) requires response plans, 33 U.S.C. 1321(j)(5), as amended by Section 4202(a) of OPA 90. The reader can find greater detail in Chapters 1 and 2.

Summary of Significant Issues Raised by Public Comments

Due to comments from the public, the Coast Guard is upholding the suspension of the "24-hour" requirement and has removed the response time requirement for "heavy lift" operations. Heavy lift equipment is only useful for vessels of limited size and not for the majority of tankers carrying oil. Because of this limited applicability and the major costs of construction associated with building heavy lift capabilities, it is economically and/or physically impractical to require these resources to be on scene in a given time period. Therefore the Coast Guard revised the regulation in Table 155.4030(b) to allow the planholders to contract with existing resource providers where they are currently located and provide an estimated time of arrival on scene for planning purposes.

Should a planholder not be able to contract a resource provider that can provide heavy lift capability for the area in which the vessel is operating, § 155.4055(g) offers a five-year waiver period for specialized salvage operations, of which heavy lift is a part. In addition, should a planholder feel that contracting for

heavy-lift capabilities is not feasible based on special circumstances of their vessel(s), 33 CFR 155.130(a)(2)(i) allows for a planholder to request the Coast Guard to grant an exemption from the regulation when compliance with a specific requirement is economically or physically impractical.

A Description and Estimate of Small Entities to Which Rule Will Apply

We estimate the number of planholders affected by this rule to be about 797, of which approximately 191 are potentially small entities. See Table 4 on page 20 of this report for more detail.

Reporting, Recordkeeping, Professional Skills, and Class of Small Entities

Planholders will be required to identify salvage and marine firefighting resource providers that meet minimum capability standards and must include these resources in VRPs. Planholders will be required to have good communication and organization skills to write their VRPs. Planholders will need to have knowledge of the regulatory requirements, the capabilities of the salvage and marine firefighting industry in their localities, and will need to have access to legal expertise and review before entering into contractual relations with salvage and firefighting service providers. Through our survey and telephonic discussions with industry representatives, the marine salvage and firefighting industry has been performing these duties for years; the final rule just provides clarifying language as to what should explicitly be stated in a VRP. Planholders and plan preparers will continue to maintain records and we have captured the burden on industry in the relevant collection of information. We estimate ongoing reporting and recordkeeping costs to be about \$1.2 million or about \$1,500 per planholder annually. Readers can find greater detail of the individual elements of the VRPs that planholders will have to include in Chapter 2.

Summary of Steps Agency Has Taken to Minimize Significant Adverse Economic Impact on Small Entities

The Coast Guard clarified language as to what planholders and plan preparers must have in their respective VRPs. The Coast Guard has also removed the relatively burdensome “heavy lift” requirement due to comments from the marine salvage and firefighting industry. Under the original “24-hour requirement”, the Coast Guard established the response time limit, while the industry was to develop the criteria and resources to meet that limit. The original S&F planning requirements may have been sufficient, but industry was unable to take all necessary steps to ensure that the requirements were met. The original rule, therefore, did not meet the minimum threshold required by Congress. In order for the Coast Guard to ensure that Congressional requirements were met, new planning requirements had to be developed. The Coast Guard maintains that planning is a key force in preventing, responding to, and mitigating a worst-case discharge of a ship’s cargo. Without clarification of planning guidelines, the Coast Guard cannot ensure that vessel response planholders are in compliance with the requirements of the rule.

In 1997, prior to the “24-hour requirement” becoming final, it became obvious to the Coast Guard that industry could not come to agreement on what services and equipment would be needed to meet that requirement. The Coast Guard re-examined the “24-hour requirement” and found that industry believed that it was too general. The Coast Guard decided that consultation with industry on S&F planning requirements would be beneficial and held a Public Workshop on August 5, 1997, to address issues

surrounding S&F. The participants of the workshop identified three issues that they believed the Coast Guard needed to address in order for industry to meet planning requirements.

- 1) Defining the S&F capability that is necessary in the plans
- 2) Establishing how quickly these resources must be on-scene
- 3) Determining what constitutes adequate S&F resources

The results from the Workshop formed the basis of the requirements of the final rule. The Coast Guard developed these new requirements with additional input from workgroups that discussed issues related to salvage and marine firefighting, data from several Coast Guard reports, and findings from the Marine Board's report "A Reassessment of the Marine Salvage Posture of the United States". In addition to the requirements in the final rule, the Coast Guard considered two alternatives—

Alternative 1—Make No Changes

Under this alternative, only the name of a salvor or marine firefighter would have been listed in a vessel response plan, and there would have been a 24-hour response time. After the original rulemaking, industry was given five years to address the issues surrounding the "24-hour requirement" and did not take the steps necessary to meet the requirement by the original implementation date. Additionally, the original rulemaking did not emphasize the actual response capabilities of resource providers, thus creating a risk of unqualified salvors or firefighters being listed in the plans. For these reasons and industry's request for clearer guidance on the original planning requirements, the Coast Guard rejected this alternative.

Alternative 2—Requiring Specific Equipment Types and Amounts in Combination with Response Times

This alternative would have required specific salvage and firefighting equipment (e.g. fenders, hoses, monitors, lift slings, etc.) to be listed in the response plan with corresponding response times. We rejected this alternative because of the unacceptable burden it would place both on planholders and the Coast Guard. This burden included the financial costs to identify and list the numerous items in response plans and the cost and hours to review and approve these plans. Planholders would have needed to review the final rule extensively to determine the exact requirements for specific equipment. For example, for fender requirements, planholders would have had to determine what size, type, grade, and approved certification would be needed. Additionally, each planholder would have been required to make decisions for each individual vessel in its fleet, since vessels have different operational requirements and would have had correspondingly different equipment requirements.

In order to verify that equipment was in place and in operable condition, the Coast Guard would have been required to put together a verification program similar to that developed for the Oil Spill Removal Organization (OSRO) program. The Coast Guard did not want to establish such an organization because of the extensive cost, manpower, and training required. In the preamble to the final rule of 33 CFR 155 subpart D, the Coast Guard expressed a clear intent to rely on the prudent owner or operator for making S&F resources available. Many of these owners came to the August 5, 1997, workshop requesting more clarification, but did not support burdensome prescriptive requirements.

Chapter 6: Paperwork Reduction Analysis

Necessity of the Information Collection

Section 4202 (a)(6) of OPA 90 amended section 1321(j) of the Federal Water Pollution Control Act (FWPCA). The section requires that vessels carrying oil in bulk as cargo and operating in waters subject to U.S. jurisdiction prepare and submit a written response plan for a worst-case discharge of oil or hazardous substances. The final rule in 33 CFR part 155 did not address, in detail, the requirements for salvage and marine firefighting resource planning. This was validated when planholders and other affected parties aired their belief, at a public workshop on August 5, 1997, that the rule did not adequately guide their planning efforts. The final rule expands on the current salvage and marine firefighting requirements to provide vessel owners and operators with clearer direction on salvage and marine firefighting resources that must be incorporated into their vessel response plans. These clarifications will ensure that salvage and marine firefighting resources, appropriate for each vessel and type of cargo, are available if an incident occurs to prevent or mitigate the discharge of oil into the environment.

Needs and Uses

The salvage and marine firefighting sections of a vessel response plan (VRP) are submitted to the Coast Guard within 18 months of the implementation of the final rule and updated annually. A VRP may cover an individual vessel or multiple vessels. The information in the sections will include the names and contact information for salvage and marine firefighting responders for each vessel with appropriate equipment and resources located in each zone in which the vessel operates; specific lists of equipment that the resource providers will make available in case of an incident in each zone; and certification that the responders are qualified and have given their permission to be included in the plan. The information in the salvage and marine firefighting sections of the VRP is necessary to show evidence that vessel planholders have done proper planning to prevent or mitigate oil outflow from vessel casualties, and to provide that information to the Coast Guard for their use in emergency response.

Use of Information Technology

Planholders and plan preparers must submit VRPs in paper form, although updates may be sent as e-mail attachments. The Coast Guard may consider electronic filing in the future, but believes this would be problematic at present because there is no standardized form for the plans, and the required information varies from planholder to planholder.

Efforts to Identify Duplication

Coast Guard information is not duplicated by other governmental entities. The State of California developed and implemented salvage regulations, but we do not anticipate that duplication of information requirements will result.

Minimizing Burden

The Coast Guard does not make any exceptions for planholders who are small businesses. However, small business planholders generally own fewer vessels than large planholders, so their reporting burden will be proportionately lower, as the plans include a section for each vessel. As with large planholders,

small business planholders may apply for waivers to the regulations for specific response services and in Captain of the Port Zones where they encounter difficulty contracting with resource providers.

Consequences of Less Frequent Collection

Requiring vessels to review and update the salvage and marine firefighting sections of the VRP less frequently than once per year would undermine the intent of OPA 90, which is to ensure that all vessels have an up-to-date plan at all times. Salvor and firefighter contact information, such as individual's names, telephone/pager/fax numbers, and addresses, are subject to frequent changes in a year's time, and these are critical to mounting any type of response effort in a casualty situation. The majority of the reporting burden will occur during the initial preparation of these sections of the VRP. Reducing the frequency of the annual update would not significantly reduce the overall burden of the information collection activities of the final rule.

Special Circumstances

There are no special circumstances.

Consultations Outside the Agency

The Coast Guard has made extensive efforts to obtain feedback from the affected parties on the final rule. After the final rule for VRPs was promulgated in January 1996, the salvage and marine firefighting industries and planholders believed the salvage and marine firefighting sections of the VRP rule were too vaguely worded for them to understand how to comply. In addition, they had concerns over the requirement that all response resources should be on scene within 24 hours of an incident's occurrence. In response, the Coast Guard held a public workshop on August 5, 1997, to identify major issues with these sections. While paperwork was not addressed directly, the consensus among planholders was that the regulations were unnecessary because market incentives, pressure from insurance underwriters, and their own economic interests would hold planholders accountable for making sure they contracted with the most qualified salvors and marine firefighters. Among the salvors and marine firefighters, the consensus was that they could evaluate and certify their own industries.¹⁷

The Coast Guard obtained valuable inputs from the industries that helped them craft the language of the final rule. However, they did not agree with the meeting attendees that the regulations were unnecessary, as the S&F posture in the U.S. has been in decline over the past 20 years. Although OPA 90 reduced the likelihood of a major spill by the implementation of other provisions of OPA 90, the possibility for significant damage to the environment remains due to the absence of salvage and firefighting equipment where it is needed, and the final rule addresses an important part of response operations that the VRP final rule did not adequately address.

Paying Respondents

The Coast Guard does not pay respondents for submitting their VRPs.

¹⁷ Opinions of planholders, salvors and marine firefighters were summarized from "Major Issues Concerning Salvage and Marine Firefighting", a report prepared by the U.S. Coast Guard Office of Response and the Maritime Association of the Ports of New York and New Jersey from the August 5, 1997, Vessel Response Plan Workshop.

Assurance of Confidentiality

The information requirements for the salvage and marine firefighting section of the VRP are mandatory. Much of the information contained in VRPs is public information, and is made available through the Coast Guard's web site. Public information includes the plan number, planholder, owner and operator names, planholder address, plan preparer name and address, plan expiration date, plan approval date, plan received date, number of vessels, list of vessel names, vessel identification number, vessel type, vessel flag, oil type carried, worst case discharge, some vessel specifications, zones in which vessel operates, vessel status, Qualified Individuals (QI), Oil Spill Removal Organizations (OSROs), salvage, firefighting and lightering responders, and operating areas. Other information is confidential and available only to Coast Guard offices and system administrators who require access to planholder, plan preparer and QI contact information (telephone/fax numbers, email addresses). On a case-by-case basis, a planholder can request that certain items be kept confidential if one feels it would compromise his or her business. Non-confidential information is subject to release under the Freedom of Information Act.

Justification for Sensitive Questions

In general, no questions that would reveal financial information or put respondents at a competitive disadvantage within their industry are asked. Contact information for response providers, considered sensitive, is necessary so that the Coast Guard has immediate access to it during emergency response situations.

Estimate of Burden and Cost

There are approximately 797 planholders as of late summer 2007 in the Coast Guard's VRP database that own or operate about 7,064 tank barges and tank ships. The Coast Guard reviews these plans annually with revisions every 5 years. The collection of information submitted to the Office of Management and Budget (OMB) for approval covers a 3-year period (OMB Control No. 1625-0066). We estimate the burden based on the most recent Coast Guard data in our VRP database.

Annually, both plan preparers and planholders will require 20 hours of managerial labor and 5 hours of clerical labor to update plans with a differential in labor rates between the two labor groups (see page 20 for greater detail). S&F companies will not require any additional labor hours. In total, the estimated annual hourly reporting burden is approximately 19,925 hours with an annual cost of approximately \$1.2 million (for managerial labor - 20 hours x \$70/hour = \$1,400; for clerical labor - 5 hours x \$21/hour = \$105 for a total of \$1,505 per response). The number of planholders is 175 x \$1,505 = \$263,375. The number of plan preparers is 622 x \$1,505 = \$936,110. See Table 10 below.

Table 10. Paperwork Burden of Final Rule (Non-Regulatory, Adjustment to Collection of Information)

	Number of Respondents	Number of Responses	Burden per Response (hours)	Cost per Response	Total Annual Labor Burden	Total Annual Labor Cost
Planholders	175	175	25	\$1,505	4,375	\$263,375
Plan Preparers	622	622	25	1,505	15,550	936,110
Salvage Cos.	0	0	0	0	0	0
Firefighters Cos.	0	0	0	0	0	0
Total					19,925	\$1,199,485

Reason for Change in Burden

The salvage and marine firefighting planning information collected under the final rule provides a much more detailed and thorough picture of the response resources that have been assembled by a planholder for deployment in a vessel casualty than the original rule. The Coast Guard believes this level of information warrants the extra level of effort in reporting hours on the part of the planholder because they need it to be available in emergency response situations, and it shows clear evidence that the planholder has carried out an adequate planning strategy. The composition and number of planholders and plan preparers has changed over the past several years. There are significantly fewer planholders than plan preparers that write their own plans. We assume the burden hour requirement per response is the same for both groups. Since there are significantly more plan preparers represented by 33 companies, this resulted in an increase in the hour burden.

Request not to Display Expiration Date

This information collection does not employ a standardized data collection instrument (standard form), but relies on specifications set forth in the final rule outlining the salvage and marine firefighting section of the VRP and the required information to be included in the plan. Therefore, there is no need for an expiration date or a request not to display such a date.

Exceptions to the Certification

There are two exceptions to the certification for Paperwork Reduction Act Submissions—

- The final rule does not make any exceptions for small businesses, and;
- The final rule does not use statistical survey methodology, as the information collection applies to the entire population of vessels, and sampling is not used

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Appendix A. Price of Salvage Equipment and Other Services

Item*	Price**
<i>Assessment and survey</i>	
Remote assessment and consultation	\$-
On-site salvage assessment	-
<i>Stabilization</i>	
Emergency towing	-
Emergency lightering	\$2,400,000
Other refloating repairs	-
<i>Specialized salvage operations</i>	
Specialized salvage operations plan	-
Deep subsurface product removal	\$325,000-\$1,500,000

Annual

<i>Personnel, drills, training, and insurance</i>	
Employee drills	\$15,000-\$200,000
Employee training	\$12,000-\$500,000
Compensation for response employees	\$150,000-\$2,000,000
Insurance surveys	-

Prices of Other Equipment and Services***

<i>Assessment and Survey</i>	
Remote assessment and consultation	-
Structural and stability assessment	\$10,000
On-site salvage assessment	\$50,000
Underwater vessel and bottom survey	-
<i>Stabilization</i>	
Emergency towing	\$450,000
Emergency transfer onboard vessel	\$250,000
Emergency lightering	\$500,000
Other refloating repairs	\$1,250,000
Temporary repair	\$175,000
Diving services support	\$800,000
<i>Firefighting assessment and planning</i>	
Remote assessment and consultation	\$80,000
On-site assessment	\$250,000
Onboard firefighting teams	\$325,000
Off-vessel firefighting systems	\$275,000

* Items with no price information are a result of non-responses to our questionnaire or as a result of the variability of the data provided by the respondents.

** We present prices as ranges or averages based on information from the four respondents unless otherwise noted.

*** We obtained the prices for these items primarily from one respondent for expository purposes only since the other three respondents either did not reply or stated that the services are performed in-house.

Appendix B. Price of Equipment and Personnel Salaries for Standard “Flyaway” Firefighting Package

Equipment	Quantity	Price of Equipment (total)
Marine fire pumps	3	\$136,500 - \$500,000
Marine manifolds	2	75,000
Pipe rack	1	100,000
Misc. hoses and fitting	Lot	100,000
Misc. firefighting gear	Lot	350,000
Equipment trucks and trailers	3	175,000 - 350,000
Forklifts	2	60,000 - 120,000
Cutting/wedging/drilling equip.	Lot	50,000
Breathing apparatus	Lot	150,000
Test equipment	Lot	3,700 - 20,000
Maine motor skid assemblies	6	200,000
Misc. heat shield equipment	Lot	25,000
Warehousing		100,000
Maintenance personnel		250,000
Misc. parts and oil		50,000
<hr/>		
Personnel	Quantity	Annual Salary (total)
Project manager	1	\$175,000 - \$200,000
Senior firefighters	4	\$150,000
Naval architect/marine engineer	1	\$120,000 - \$150,000
Logistics	1	\$90,000 - \$135,000

Appendix C. Casualty Reports

Table C-1.

Detail of Inland Barge Casualty Cases (2002-2006)

MC Number/Activity ID	Year	Location	Casualty Type	Volume Spilled (Gal)	Eff. Factor	Benefit (Gal)	Benefit (Bbls)
1623692	2002	Intercoastal Waterway	Structural Fail.	13,725	0.39	5,353	127
2029988	2004	Houston Ship Channel	Collision	151,200	0.24	36,288	864
2258450	2004	Houston Ship Channel	Collision	58,044	0.24	13,931	332
2323239	2005	Arthur Kill	Allision	13,500	0.17	2,295	55
Total				236,469		57,866	1,378

Note: some quantities may not total due to rounding.

Table C-2.

Detail of Coastal Barge Casualty Cases (2002-2006)

MC Number/Activity ID	Year	Location	Casualty Type	Volume Spilled (Gal)	Eff. Factor	Benefit (Gal)	Benefit (Bbls)
2270331	2005	East River, Brooklyn	Grounding	1,000	0.38	380	9
2345521	2005	Hudson River	Grounding	10,000	0.38	3,800	90
Total				11,000		4,180	100

Note: some quantities may not total due to rounding.

Table C-3.

Detail of Tank Ship Casualty Cases (2002-2006)

MC Number/Activity ID	Year	Location	Casualty Type	Volume Spilled (Gal)	Eff. Factor	Benefit (Gal)	Benefit (Bbls)
1478439	2002	Arthur Kill Waterway	Structural Fail.	1,000	0.15	150	4
2248988	2004	Atlantic Deep Water Acce	Allision	263,382	0.18	47,409	1,129
2297146	2005	Arthur Kill Waterway	Allision	2,500	0.18	450	11
Total				266,882		48,009	1,143

Note: some quantities may not total due to rounding.