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# **REGULATORY IMPACT ANALYSIS FOR THE SHORE PROTECTION ACT Of 1988**

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**EPA Implementing Regulation  
for Handling Municipal or  
Commercial Waste in Coastal  
Waters**

*Prepared for:  
U.S. Environmental Protection Agency  
Oceans and Coastal Protection Division*

*Under subcontract to:  
Tetra Tech, Inc.  
Lafayette, CA*

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***Kearney/Centaur Division  
A.T. Kearney, Inc.***

**October 1993**

**Regulatory Impact Analysis  
for the  
Shore Protection Act of 1988**

**EPA Implementing Regulation for Handling  
Municipal or Commercial Waste in Coastal Waters**

**Draft**

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**U.S. Environmental Protection Agency  
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**Under U.S. EPA Contract No. 68-C1-008**

**October 1993**

## **DISCLAIMER**

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## **PREFACE**

**This document was prepared for the Oceans and Coastal Protection Division, U.S. Environmental Protection Agency under Contract No. 68-C1-008, Work Assignment No. 1-58. This report estimates the compliance costs of the proposed Shore Protection Act regulations and provides a comprehensive response to the EPA rulemaking process, Executive Order 12866, the Paperwork Reduction Act, and the Regulatory Flexibility Act.**

**This document was prepared under the supervision of Barbara Wallace. Project team members included Garry Brown, Emily MacDonald, Allen Merriman, Jacqueline Quirk, and Timothy Sherwood. Joel Salter, with the Oceans and Coastal Protection Division of EPA, provided Agency oversight. His inputs were invaluable to the preparation of this analysis as were the suggestions of the interagency working group assembled to implement the Shore Protection Act. This working group included representatives of EPA, the Coast Guard, and NOAA.**



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## **1.0 Introduction**

### **Background**

## **1.0 INTRODUCTION AND BACKGROUND**

### **1.1 Introduction**

Title IV of the Shore Protection Act (SPA) of 1988 requires EPA to promulgate regulations on waste handling practices for vessels transporting municipal and commercial waste in coastal waters and the sources and receiving facilities of such waste. The goals of the regulation are to minimize deposit of waste into coastal waters during vessel loading, transport, and unloading, and to ensure that any deposited waste is reported and cleaned up.

This report presents the assessment of the economic impacts of the proposed EPA SPA regulation. The analysis is based on the draft version of the rule dated June 29, 1993. Changes in later drafts do not require revisions to cost estimates. ✓

This report contains six chapters and three appendices. This initial chapter provides background on the necessity and purposes of the proposed rule. Chapter 2 presents an analysis and discussion of the individual provisions of the proposed rule, identification of any provisions which are partially or fully required under other laws and regulations, and the actions required to comply with SPA. Chapter 3 identifies the industry segments affected by the rule and the actions required in each segment to achieve full compliance. The costs of complying with the rule are presented in Chapter 4, first for each individual activity by an affected entity, and then summarized to obtain total costs for the affected universe. The benefits accruing from the implementation of SPA are described in Chapter 5. Finally, Chapter 6 discusses the impact of these compliance costs on the affected industry segments. References can also be found at the conclusion of the report.

Details of the compliance cost estimates are presented in Appendix A. The full text of the proposed EPA SPA regulation is included as Appendix B. Appendix C contains the text of the related U.S. Coast Guard regulation. The proposed EPA regulation provided in Appendix B is covered by this document, while Appendix C is provided for information purposes only.

### **1.2 Background**

On November 18, 1988, Congress enacted the Shore Protection Act (33 U.S.C. 2501 *et seq.*) to help prevent trash, medical debris, and other unsightly and potentially harmful materials from being deposited into the coastal waters of the United States as a result of inadequate waste handling procedures. The Conference Report on the Ocean Dumping Ban Act (Report 100-1090) stated that landfills and attendant barging operations are a major source of floatable waste in harbor areas. The report concluded that this type of waste had fouled the beaches of this country over the previous two summers, reducing the quality of coastal waters, endangering the health of humans, marine mammals, waterfowl and fish, and causing severe decline in the coastal economies dependent upon tourism and recreational uses.

#### **1.2.1 Existing Federal Laws and Regulations**

The handling of wastes and prevention of waste deposition to coastal waters is covered in various situations, for various types of waste and at various facilities, by a number of other regulations and laws. The most important of these are:

- The Rivers and Harbors Act of 1899 (33 U.S.C. 407 §13), which proscribes the deposition of any waste or refuse, either from shore or from a vessel of any kind, into any navigable water of the United States, or any tributary thereof, or in such location as to create the possibility that it might be carried into the navigable waters or a tributary thereof.
- The Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*), which regulates the dumping of all types of materials into ocean waters, as well as the transportation of any materials in the waters of the United States for the purpose of ocean dumping.
- The Federal Water Pollution Control Act and Clean Water Act (33 U.S.C. 1251 *et seq.*), which establish the framework for the regulation of the discharge of all pollutants into navigable waters.
- The Marine Plastic Pollution Research and Control Act of 1987 (Title II of Public Law 100-220) which amends the Act to Prevent Pollution from Ships (33 U.S.C. 1901 *et seq.*) and implements MARPOL Annex V, an international treaty on disposal of ship-generated garbage, in the United States. It prohibits at-sea disposal of plastics from ships and specifies the distance from shore that certain other materials may be dumped, as well as requiring reception facilities for garbage at ports and terminals.
- Solid Waste Disposal Act (Title II of RCRA; 42 U.S.C. 6901 *et seq.*), which classifies and regulates hazardous wastes and preempts SPA for such wastes.

The ways in which these laws affect or interact with the proposed regulation are discussed in Chapter 3, along with relevant state regulations, local policies, and industry operating procedures and guidelines. Some of these existing laws require affected parties to have procedures in place which would constitute compliance with SPA, particularly with regard to specific or limited industry segments, operations, or wastes.

\* The laws and regulations discussed above largely address intentional dumping of solid waste, although RCRA addresses total control of hazardous wastes. The one area that is not covered by these laws and regulations is the accidental or incidental spillage of wastes during transfer and transport within coastal waters. That gap is precisely what this proposed regulation is intended to fill. The section below discusses the intent and the general requirements and effects of SPA.

### 1.2.2 The Shore Protection Act

Section 4103(a) of the Shore Protection Act requires owners or operators of waste sources, vessels transporting waste, and waste reception facilities to take reasonable steps to minimize the amount of municipal or commercial waste deposited into coastal waters. This applies both during vessel loading and unloading operations and during vessel transportation of wastes from waste sources to waste receiving facilities.

The Act is implemented by both EPA and the U.S. Coast Guard (USCG). In practice, EPA has the lead with implementing best management practices and recordkeeping requirements, while USCG has initiated a preliminary SPA permitting process. The USCG also is charged with

prescribing the permit marking system and enforcing both the USCG and EPA regulations. A description of each follows.

### **USCG Responsibility for SPA Vessel Permitting**

The Act prohibits vessels from transporting municipal and commercial waste unless they have a permit and display a number or other prescribed marking. The permitting of these waste transportation vessels is under the authority of the USCG. To meet this requirement of the Act, an interim rule was implemented by the USCG in 1989 requiring vessels subject to SPA to obtain a permit (33 CFR Part 151). A copy of these interim regulations is provided in Appendix C for information purposes. Under this interim rule, vessels subject to SPA must inform the regional USCG offices of their intention to transport municipal or commercial waste. The USCG then issues a permit in the form of a letter and identification number. The lists of SPA permitted vessels are referenced extensively throughout this analysis and subsequently form the basis for some of the estimates of the affected population.

This permitting process is implemented exclusively by the USCG and is not a subject of this analysis.

### **EPA Responsibilities Under SPA**

The Environmental Protection Agency (EPA) is responsible for developing, promulgating, and enforcing regulations which will address the prevention, containment, and removal of waste deposited into coastal waters as a result of the transfer and transportation of municipal and commercial waste. This affects waste sources, waste transportation vessels, and receiving facilities.

As stated in the draft of the EPA proposed regulation, the purposes of this regulation are to:

- Establish requirements under the Shore Protection Act, Title IV of Public Law 100-688 Part 237, for vessels, waste sources, and receiving facilities to assure that municipal and/or commercial waste is not deposited into coastal waters during loading, offloading, and transport;
- Require, as appropriate, the submission and adoption by each responsible party of an operation and maintenance manual identifying procedures to be used to prevent, report, and clean up any deposit of municipal or commercial waste into coastal waters, including recordkeeping requirements; and
- Require tracking systems on vessels when and where deemed necessary by the Administrator to assure adequate enforcement of laws preventing the deposit of municipal or commercial waste into coastal waters.

### **Applicability of USCG and EPA SPA Regulations**

Municipal and commercial waste. The wastes covered by SPA consist of any non-hazardous solid waste generated by residences and businesses. The major categories included here are municipal garbage (from any source), sewage sludge, and drilling muds. Specifically exempted are hazardous wastes, construction debris, and dredged or fill material.



Vessels covered by SPA. The intent of the USCG is to permit vessels whose purpose is to transport municipal or commercial waste in the coastal waters of the United States. The conference report on the Ocean Dumping Ban Act (Report 100-1090) states that the Act was intended "only to apply to vessels whose purpose is the transportation of municipal or commercial waste, not all vessels. It was not intended to apply to vessels that may generate waste during normal operations." Waste generated during normal operations is covered by MARPOL Annex V. A vessel which regularly transports miscellaneous cargo (e.g., a supply boat) but is hired expressly for the purpose of transporting waste for a specific voyage would be required to hold a permit to transport waste for that voyage, since the predominant business or purpose of that vessel for that voyage is waste transportation. However, a vessel which happens to transport some waste, such as a ferry, would not be subject to regulation under SPA. A vessel subject to SPA would be required, in addition to obtaining a permit, to have procedures for loading and securing waste, as well as cleaning up waste deposits, in its operation and maintenance (O&M) manual. The vessel would also require the necessary equipment to do so. Such vessels would also be required to label and seal all valves or ports used to discharge waste or waste residue.

Waste sources. Vessels, transfer stations, and any other facilities, onshore or offshore, from which waste is loaded onto a vessel may be waste sources subject to SPA. While sources are not required to obtain any type of permit, they would be required to have O&M manuals for preventing and cleaning up waste deposits, as well as the equipment necessary to do so, and to keep records on waste deposits. Examples of waste sources include waste transfer stations and municipal sewage treatment plants in New York City. Offshore oil and gas platforms are covered by MARPOL Annex V inasmuch as the garbage is produced only from normal operations. Similarly, cruise ships which get services from tenders rather than at the dock are also covered by MARPOL Annex V.

EPA Effluent Guidelines for Offshore Oil and Gas Extraction, along with the National Pollutant Discharge Elimination System (NPDES) program, cover the oil and chlorine content of discharges from platforms. Therefore, only non-hazardous, oil-free drilling muds (as well as municipal garbage) from platforms are covered by SPA.

Waste receiving facilities. Any facility, vessel, or operation which receives municipal or commercial waste from a waste transport vessel, as defined by this proposed regulation, would be subject to SPA as a receiving facility. This includes, for instance, the Fresh Kills Landfill in New York, barges receiving drilling muds from work boats along the Gulf Coast, and docks in various ports where tenders unload garbage from cruise ships and other vessels.

Waste type is the primary variable in identifying, describing, and analyzing the affected industry segments and the associated costs arising from this proposed regulation. There is no overlap between segments handling different types or forms of waste in the case of uncontainerized garbage barges and sewage sludge barges. These barges are all dedicated to their specific roles, and are the only vessels which fill those roles. The other segments based on waste types are packaged garbage and drilling muds and cuttings. Drilling muds are carried by supply vessels serving the offshore oil and gas industry and the barges serving inland platforms which receive those muds. Drilling muds are generally taken to a hopper barge at a transfer station or to the waste treatment facility. Packaged garbage, while more diverse than the other segments and including several sub-segments, does not overlap with any other segments [except in the case of supply boats which haul both garbage and drilling muds from offshore platforms].

Because of the delineation of affected parties on the basis of waste type, each type of waste handling facility was followed from source to receiving facility to identify the affected segments. Each segment has been analyzed with respect to necessary compliance activities and the costs of those activities. This was then used as the basis for organizing the chapters on affected segments, costs, and economic impacts.

## **2.0 Proposed SPA Rule**

## **2.0 PROPOSED SHORE PROTECTION ACT RULE, 40 CFR 237**

### **2.1 Purpose [§237.1]**

The proposed Shore Protection Act rule is intended to fill the gap in the laws and regulations concerning waste-handling of municipal and commercial wastes transported by vessels within the coastal waters of the U.S. As the proposed Part 237 states in §237.1, the purpose is threefold:

- Establish requirements under the Shore Protection Act, Title IV of Public Law 100-688 part 237, to assure that commercial and/or municipal waste is not deposited into coastal waters during loading from waste sources to transport vessels, offloading of vessels at waste receiving facilities, and during transport on a vessel;
- Require the submission and adoption of an operation and maintenance (O&M) manual for vessels and waste loading and unloading facilities; and
- Require tracking systems when necessary.

### **2.2 Applicability [§237.2]**

The SPA will apply to three types of entities:

- "Waste source means a vessel, or a facility located within the coastal waters of the U.S. from which municipal or commercial waste is loaded onto a vessel, including any rolling stock or motor vehicles from which that waste is directly loaded."
- "Receiving facility means a facility, vessel or operation within the coastal waters of the U.S. which receives municipal or commercial waste unloaded from a vessel;" and
- "Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water. Vessels transporting municipal and commercial waste include, in the case of a non-propelled vessel, both the non-self-propelled vessel and the towing vessel."

Public vessels, that is vessels owned or demise chartered, and operated by the U.S. government or a government of a foreign country, are exempt. SPA applies in addition to, not in lieu of, all other applicable requirements. It applies to any non-hazardous solid waste generated by residences and businesses. The major categories are municipal garbage (from any source), sewage sludge, and drilling muds. Specifically exempt from the regulation are hazardous wastes, construction debris, and dredged or fill material.

### **2.3 Specific Provisions and Compliance Activities [§237.4 and 237.5]**

The requirements of §237.4 apply to the waste source and receiving facilities. Those of §237.5 apply to waste transporting vessels. The requirements of each provision are presented in Exhibit 2-1 (located at the end of this Chapter) and explained in terms of what actions are required on the part of sources and receiving facilities. This exhibit also identifies the potential costs which may arise from those actions.

The requirements pertaining to waste sources and receiving facilities (§237.4) include containment or diversionary structures, or equipment to catch waste deposits, use of fixed lighting during transfers which take place at night, documentation of procedures in an O&M manual, cleanup of any waste deposits which occur, record keeping of waste deposits which occur, and notification of corporate and governmental oversight authorities when prompt and thorough cleanup of waste deposits cannot be made.

The provisions for waste transporting vessels (§237.5) require development of written procedures for loading and securing waste in an O&M manual and use of those procedures, cleanup of any waste deposits, record keeping of waste deposits, and notification of corporate and governmental oversight authorities when prompt and thorough cleanup of waste deposits cannot be made. In addition, §237.5(c) authorizes the Administrator (of the Environmental Protection Agency or his/her designee) to require that vessels use tracking systems after considering: 1) the owner/operator's history of compliance with SPA; 2) the history of the owners/operator's compliance with other statutes intended to prevent pollution of coastal waters from municipal and commercial wastes; 3) the characteristics and amounts of the waste transported; and 4) the feasibility of installing such a system. Coastal waters refer to the territorial sea of the U.S., the Great Lakes and their connecting waters, the marine and estuarine waters of the U.S. up to the head of tidal influence, and the Exclusive Economic Zone.

## **2.4 Permit Review Procedures [§237.6]**

According to §237.6, the permit review procedures identified in 33 CFR 140, that is the current procedures used, will be followed. Permit denial grounds are also provided.

## **2.5 Enforcement [§237.7]**

The provisions of §237.7 provide for civil penalties for violation of any provision. It states the enforcement procedures are outlined in a Memorandum of Understanding between the U.S. Coast Guard and EPA.

# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p>§237.4 (a) Performance standard. The owner or operator of a waste source or receiving facility shall have containment, diversionary structures, and equipment, consistent with the requirements of this subsection, to contain and remove any municipal or commercial waste deposited in coastal waters during loading and offloading. The owner or operator of a waste source or receiving facility shall use containment or diversionary structures or equipment in a manner that minimizes deposit of municipal or commercial waste into coastal waters.</p> <p>Appropriate methods to meet this performance standard must be identified in the O&amp;M manual.</p>	A source or receiving facility must have and use containment, diversionary structures, or equipment in accordance with the written procedures it must have in its operation and maintenance (O&M) manual.	<ul style="list-style-type: none"> <li>• Purchase of equipment</li> <li>• Time required to develop and implement procedures</li> <li>• Additional employee time to follow the procedures</li> </ul>
<p>§237.4 (b) Fixed Lighting. The owner or operator of a waste source or receiving facility shall use fixed lighting, that adequately illuminates the loading and offloading point and surrounding area, when conducting loading and offloading operations between sunset and sunrise.</p>	A source or receiving facility must have and use fixed lighting at the loading and offloading point when waste transfers occur during non-daylight hours.	<ul style="list-style-type: none"> <li>• Purchase and installation of lights</li> <li>• Electricity</li> </ul>

# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste (Cont'd)

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p>§237.4 (c) Waste Deposit Cleanup. The owner or operator of a waste source or receiving facility shall have means in place to <u>promptly</u> (before the waste has a chance to disperse), and <u>thoroughly</u>, cleanup municipal or commercial wastes deposited into coastal waters during loading and offloading. The methods for cleanup of the waste must be identified in the facility's O&amp;M manual. ...</p> <p>The owner or operator shall have the oversight authority telephone number(s) visibly and legibly displayed at the transfer station. The owner or operator shall promptly notify the designated oversight authority if the owner or operator is unable to meet the requirements of these regulations. ...</p>	<p>A source or receiving facility must have identified in its O &amp; M manual methods to clean up waste deposits and, in the event of a spill during the transfer of wastes, must use those methods.</p> <p>A sign must be posted which easily identifies two oversight authorities: 1) the unit or person in the source or receiving facility company that must be notified in the event of a waste spill which cannot be cleaned up and 2) the governmental oversight authority. The notification procedures must be explained in the O &amp; M manual. The information recorded on the waste deposit record keeping form (i.e., date and time of deposit, type and estimated amount of waste deposited and cleaned up, vessel name, cause of deposit, and method and time of cleanup) must be reported to these oversight authorities in the event a waste deposit cannot be cleaned up.</p>	<ul style="list-style-type: none"> <li>• Purchase of equipment</li> <li>• Time required to develop and implement procedures</li> <li>• Additional employee time to follow the procedures</li> <li>• Time required to identify the appropriate telephone number</li> <li>• Time required to make (or have made) the sign</li> <li>• Time to post the sign</li> </ul>
<p>§237.4 (d) Waste Deposit Records.</p> <p>(1) The owner or operator of a municipal or commercial waste receiving facility, or waste source shall maintain a daily record of waste deposited into coastal waters. ...</p> <p>(2) The owner or operator shall retain these records for no less than three years and must submit these records to the Administrator or the Secretary upon request. ...</p>	<p>A written record of waste deposits must be kept by a source or receiving facility. The records should reflect waste deposits for each completed transfer of waste.</p> <p>The waste deposit records must be retained for at least three years and be submitted for review by EPA, if requested.</p>	<ul style="list-style-type: none"> <li>• Time required to develop record keeping form</li> <li>• Time required to complete record keeping form</li> <li>• Storage space for records (insignificant)</li> </ul>

# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste (Cont'd)

Chapter 2.0

2-5

Proposed SPA Rule

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p>§237.4 (c) Operation and Maintenance Manuals.</p> <p>(1) Each receiving facility or waste source shall develop an O &amp; M manual 180 days after the regulation is promulgated. The manual shall include:</p> <ul style="list-style-type: none"> <li>i. Record keeping procedures;</li> <li>ii. A description of the basic O &amp; M standards adopted by the facility or waste source to implement the requirements of section 237.4;</li> <li>iii. Identification of the parties responsible for implementing the manual;</li> <li>iv. A description of the procedures the owner or operator will use to prevent, report, and cleanup any deposit of municipal or commercial waste into coastal waters consistent with §237.4 (c).</li> </ul>	<p>A source or receiving facility must have a written O &amp; M manual which covers: 1) record keeping, 2) procedures to minimize waste deposits during transfer to and from transport vessels, 3) those responsible for implementing the procedures described in the manual, and 4) procedures to cleanup wastes deposited in coastal waters during transfer to and from transport vessels.</p>	<ul style="list-style-type: none"> <li>• Time required to develop procedures and write O&amp;M manual</li> </ul>
<p>§237.4 (e)(2) At the request of the Administrator, the receiving facility or waste source shall submit or provide the O&amp;M manual to the Administrator for review or approval... The O&amp;M manual shall comply with the format and guidelines established in the SPA "Municipal and commercial waste handling technical guidance document" (O&amp;M manuals section) (appendix A).</p> <p>§237.4 (e) (3) The O&amp;M manual shall be made available and accessible to all employees on site.</p>	<p>The O&amp;M manual must follow the format and guidelines set forth in the O&amp;M manual section of the technical guidance document which is Appendix A of the regulation. The O&amp;M manual must be made available to EPA for review and approval, if requested.</p> <p>A copy of the O&amp;M manual must be readily available and accessible to all employees at each source or receiving facility.</p>	<ul style="list-style-type: none"> <li>• Time and expense required to submit manual to Administrator</li> <li>• Cost of reproducing the O&amp;M manual</li> <li>• Time and expense to distribute the O&amp;M manual to the facility</li> </ul>



# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste (Cont'd)

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p>§237.5 Specific waste handling practices for vessels during transport.</p> <p>§237.5 (a) Performance Standard. The owner or operator of a vessel which transports municipal or commercial waste must secure the waste to assure that it will not be deposited into coastal waters during transport. At a minimum the owner or operator must ensure that:</p> <ul style="list-style-type: none"> <li>i. Waste is not loaded in excess of the vessel's design capacity; nor in a manner inconsistent with the instructions in the vessel's O&amp;M manual.</li> <li>ii. All waste shall be contained in a way that minimizes deposition into United States coastal waters. ...</li> <li>iii. The vessel hauling solid waste shall have and use a drainage containment system for collection of leaching liquids. ...</li> <li>iv. All ports and valves which may be used for flushing or discharging waste or waste residue from the hull or tanks must be labelled and the valve seals shall be placed on the valves.</li> </ul>	<p>A waste transport vessel must have and use procedures which will minimize spills of waste during transport and which are in accordance with the written procedures it must have in its O&amp;M manual. A collection system for leachate is required on vessels carrying solid waste. All ports and valves used for discharging waste must be labelled (such as a stencil) with the substance for which they are used and with the direction of the flow (such as off/on).</p>	<ul style="list-style-type: none"> <li>• Purchase of equipment (e.g., boat hooks, dip nets, and harnesses for use with a crane)</li> <li>• Time required to develop and implement procedures</li> <li>• Additional employee time to follow the procedures</li> </ul>
<p>§237.5 (b) Operation and Maintenance. The owner or operator shall develop an O&amp;M manual and have it available on the vessel. The O&amp;M manual must contain instructions on loading the vessel and securing the waste, including loading and securing diagrams in accordance with 237.5(a). The O&amp;M manual shall comply with the format and guidelines established in Appendix A for vessel O&amp;M manuals. The O&amp;M manual shall be made available and accessible to all employees on the vessel.</p>	<p>A waste transport vessel must have and operate according to an O&amp;M manual. This manual must identify how wastes are loaded and secured in order to minimize spills into coastal waters. The O&amp;M manual must follow the format and guidelines set forth in the vessel O&amp;M manual section of the technical guidance document in Appendix A of the regulation. A copy of the manual must be readily available and accessible to all employees on each SPA-permitted vessel.</p>	<ul style="list-style-type: none"> <li>• Time required to develop procedures</li> <li>• Cost of reproducing the O&amp;M manual</li> <li>• Time and expense to distribute the O&amp;M manual to the vessel</li> </ul>

# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste (Cont'd)

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p>§237.5 (c) Waste Deposit Cleanup. The owner or operator of a vessel shall promptly (before the waste has a chance to disperse), and thoroughly, remove any waste deposited into the coastal waters during transport. The owner or operator of the vessel shall have the capability on board to cleanup the spill or to call a support unit to cleanup the spill. The owner or operator shall have the support unit telephone number(s) and the oversight authority telephone number(s) located on the vessel in a way that these numbers are visible and legible to the owner or operator and vessel crew. The owner or operator or crew of a vessel shall promptly notify the designated oversight authority if the owner or operator is unable to meet the requirement under 237.5 (b) ...</p>	<p>A waste transport vessel must have identified methods to clean up waste deposits and, in the event of a waste spill during transport, must use those methods. A sign must be posted on the vessel which easily identifies the cleanup company, if that approach is used, and the two oversight authorities that must be notified when a waste deposit cannot be cleaned up: 1) the responsible unit within the vessel owner or operator firm and 2) the government oversight agency. The procedures explaining when and how this notification process is to occur must be explained in the O&amp;M manual. The information recorded on the waste deposit record keeping form (i.e., date and time of deposit, type and estimated amount of waste deposited and cleaned up, vessel name, cause of deposit, and method and time of cleanup) must be reported to these oversight authorities in the event a waste deposit cannot be cleaned up.</p>	<ul style="list-style-type: none"> <li>• Purchase of equipment</li> <li>• Time required to develop and implement procedures</li> <li>• Additional employee time to follow the procedures</li> <li>• Time required to identify appropriate telephone numbers</li> <li>• Time required to make (or to have made) the sign and to distribute it to the vessel</li> <li>• Time required to post the sign</li> </ul>
<p>§237.5 (d) Waste Deposit Records.</p> <p>(1) The owner or operator of a vessel shall maintain a record of all waste deposited into the coastal waters. These records must include information ...</p> <p>(2) The owner or operator shall retain these records for no less than three years and must submit these records to the Administrator or Secretary upon request within five working days. The owner or operator shall promptly notify the designated oversight authority if the owner or operator is unable to meet the requirement under 237.5(c). ...</p>	<p>A written record of waste deposits from each SPA-permitted vessel must be kept. The record should reflect waste deposits from each completed trip.</p> <p>The waste deposit records must be retained for at least three years, and if requested, submitted to EPA. The information recorded on the waste deposit record keeping form must be reported to the corporate and governmental oversight authorities in the event a waste deposit cannot be cleaned up. These oversight authorities should be identified in the O&amp;M manual and their telephone numbers posted on each SPA-permitted vessel.</p>	<ul style="list-style-type: none"> <li>• Time required to develop record keeping form</li> <li>• Time required to complete record keeping form</li> <li>• Storage space for records</li> </ul>

# Specific Provisions And Compliance Activities For Waste Sources And Receiving Facilities During Loading And Offloading And Vessels During Transport Of Municipal And Commercial Waste (Cont'd)

Proposed SPA Provision (6/29/93 draft)	Activity Required	Potential Cost Element
<p><b>§237.5 (e) Tracking Systems.</b>            (1) The Administrator may require owners and operators of vessels to operate a vessel tracking system on each vessel or as the case may be systems when two or more vessels are involved. ...</p>	EPA may require SPA-permitted vessels to develop and use a tracking system for wastes.	Cost incurred only in cases of noncompliance
<p><b>§237.6 Permit review procedures.</b>            (a) Permit review procedures will be followed as identified in 33 CFR 140.            (b) This regulation provides permit denial grounds.</p>		
<p><b>§237.7 Enforcement</b>            (a) Violation of any provision of these regulations could lead to the imposition of civil penalties.            (b) Enforcement procedures are outlined in the MOU between USCG and EPA.</p>	Civil penalties can be imposed for violations of the regulations. The enforcement procedures have been developed between EPA and the USCG.	

### 3.0 Affected Industry Segements

### **3.0 AFFECTED INDUSTRY SEGMENTS**

This chapter identifies the industry segments affected by the proposed rule and the actions required in each segment to achieve full compliance. The chapter is structured around the type of wastes carried and the corresponding industries affected by the proposed rule. For each of the four types of waste covered under the proposed SPA regulation – uncontainerized municipal wastes, packaged garbage, sewage sludge, and drilling muds and cuttings – the chapter identifies the industry affected; provides an overview of other laws, state regulations, and/or industry standards which influence that industry's waste-handling practices; describes current waste-handling practices; and identifies additional actions required for the industry segment to achieve full compliance with the proposed rule.

#### **3.1 Overview of Affected Industries**

Exhibit 3-1 is a summary of the industry segments affected by proposed SPA regulation. As shown in this exhibit, the number of waste sources is about the same for uncontainerized municipal wastes, packaged garbage, and sewage sludge. Most of the vessels covered by SPA service the offshore oil and gas industry, particularly that industry in the Gulf of Mexico. There is some overlap with the type of waste carried by offshore supply boats which can carry both packaged garbage from platforms and drilling muds and cuttings to shore. The largest number of receiving facilities are those that receive packaged garbage from the offshore oil and gas industry and those that receive drilling muds and cuttings. Again, most of those facilities are in the Gulf of Mexico.

#### **3.2 Uncontainerized Municipal Wastes**

##### **3.2.1 Affected Parties**

As shown in Exhibit 3-1, there are three industry segments affected by SPA in the category of uncontainerized municipal wastes. All of these segments are part of the New York City Department of Sanitation (NYC DOS), and are related to the transport of municipal wastes collected from residences and small businesses in New York City to the Fresh Kills Landfill on Staten Island. The SPA-permitted vessels operate exclusively in the New York Harbor. A summary of the waste flow of uncontainerized garbage subject to SPA is shown in Exhibit 3-2.

Fresh Kills is the only remaining active landfill in the city and receives the majority of the city's garbage. About 11,000 of the 14,000 tons per day of uncontainerized municipal wastes received at Fresh Kills are delivered by barges which originate from eight Marine Transfer Stations (MTS) located in the other boroughs of the city. (The remainder of the uncontainerized municipal wastes is delivered to the landfill by truck.) Tugboats under contract to the DOS transport the barges to Fresh Kills. The tugboats may stop at other MTSS to pick up more barges. Sometimes, because of weather or operational conditions, the barges are deposited at a staging area located in Brooklyn for delivery to Fresh Kills at a later time (NYC DEP, 1991a). Typically, the tugboats tow empty barges on the return trip from Fresh Kills. There are no private MTSS or other municipal MTSS within New York Harbor (Masters, 1993; NYC DEP, 1992b).

# Summary Of Affected Parties: Shore Protection Act

Chapter 3.0

3-2

Affected Industry Parties

Geographic Area/EPA Region	No. of Wastes Sources	No. of Transporting Vessels		No. of Receiving Facilities
		Barges	Offshore Supply Boats	
<b>Uncontainerized Garbage</b> New York City/EPA Region 2	8	104	0	1
<b>Packaged Garbage – Oil and Gas Industry</b> Gulf of Mexico/EPA Regions 4 and 6 California/EPA Region 9 Alaska/EPA Region 10	N/A N/A N/A	66 0 0	740 ±10 5-10	137* 5* 2*
<b>Packaged Garbage – Vessels Anchored Offshore</b> Alaska/EPA Region 10	N/A	2 **	2 **	3
<b>Packaged Garbage – Islands</b> Massachusetts/EPA Region 1 New York/EPA Region 2	1 12	1 4	0 0	1 1

\*Oil and gas supply bases listed in U.S. Army Corps of Engineers' Port Series

\*\*Barges and offshore supply boats handling packaged garbage for vessels anchored offshore are treated as a single segment

## Summary Of Affected Parties: Shore Protection Act (Cont'd)

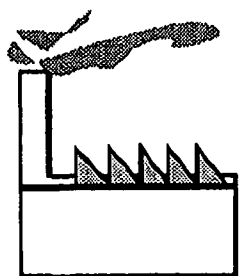
Geographic Area/EPA Region	No. of Wastes Sources	No. of Transporting Vessels		No. of Receiving Facilities
		Barges	Offshore Supply Boats	
<b>Sewage Sludge</b>				
Massachusetts/EPA Region 1	2	1	0	1
New Jersey and New York/EPA Region 2	4	11	0	4
Pennsylvania/EPA Region 3	1	1	0	1
Illinois/EPA Region 5***	(2)	(2)	0	(1)
<b>Drilling Muds</b>				
Gulf of Mexico/EPA Regions 4 and 6	N/A	126	740	47
California/EPA Region 9	N/A	0	±10	3
Alaska/EPA Region 10	N/A	0	0	0

N/A – Not applicable, SPA does not apply to this industry segment

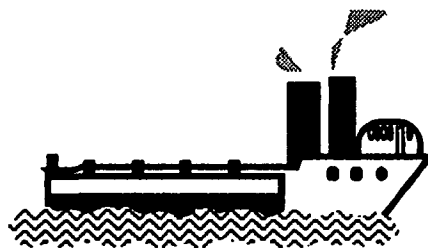
\*\*\* Not currently operating

Source: Tetra Tech, 1993; U.S. Coast Guard database of OSVs; Louisiana and Texas listings of oil field treatment facilities

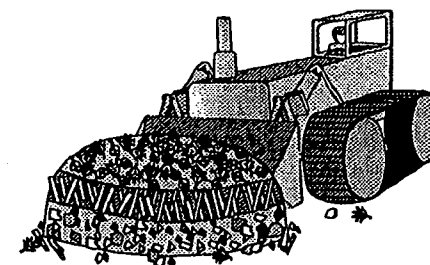
## Waste Flow Subject To SPA: Uncontainerized Garbage



Transfer Station



Garbage Barge



Receiving Facility

Key:  = Transfer covered by SPA



### **3.2.2 Factors Affecting Waste-Handling Procedures**

The waste-handling procedures used by the NYC DOS reflect New York State Department of Environmental Conservation (NYS DEC) regulations, a U.S. District Court Consent Order, and department manuals and protocols concerning solid waste management.

NYS DEC regulates and permits New York City solid waste-handling facilities including the Fresh Kills Landfill and the Marine Transfer Stations. The NYS regulations, 6 NYCRR Part 360 Solid Waste Management Facilities, detail the provisions for siting, permitting, and operating a solid waste management facility. EPA consulted these regulations during development of the proposed SPA regulations.

The Consent Order stems from a lawsuit originally filed in April 1979 by the Township of Woodbridge, New Jersey against New York City claiming that garbage lost during offloading at the Fresh Kills Landfill was washing ashore and fouling their shoreline. Woodbridge was later joined in the lawsuit by the New Jersey Department of Environmental Protection, the Interstate Sanitation Commission, Groups Against Garbage, and Save Our Seas, Inc. This action resulted in a June 1983 court order to New York City to build an enclosed barge unloading facility at the Fresh Kills Landfill.

New York City was found to be in contempt of this order in 1986 when the City's failure to build the structure resulted in the case being brought before the court again. A Consent Order was developed and signed in 1987 after the suit was re-opened by the court. The Consent Order required a number of changes in waste handling related to the marine transport of garbage and waste handling at the Fresh Kills Landfill; a study of floatable garbage and litter in the New York Harbor and surrounding waterways; and analyses by an independent consultant of the present system, enhancements to the system, and alternatives to the system to prevent solid waste debris from entering the water.

The requirements related to waste-handling practices included development of operation and maintenance procedures designed to prevent discharges of debris and litter into the water from the MTSs, barges, and Fresh Kills; monitoring by a New York City Water Quality Compliance Monitoring Team; monitoring by an independent monitor; and use of specific types of equipment such as a hydraulic crane, skimmer boats, a boom and lock system, and a Super Boom at Fresh Kills.

The multi-year *City-Wide Floatables Study* sponsored by the New York City Department of Environmental Protection (NYC DEP), in cooperation with the NYC DOS, began in 1989. This study has characterized and quantified the sources of floatable materials in the New York Harbor. This included floatables from solid waste-handling facilities – the MTSs, the barges, and the Fresh Kills Landfill. The study estimated that floatables from solid waste handling (MTSs, barges, and landfills) represent about 1 percent of general debris in the harbor by any of three measurements – number of items per month, weight of floatables per month, and volume of floatables per month (NYC DEP, 1992b). The study concluded that containment procedures used at the MTSs and at Fresh Kills are very effective (NYC DEP, 1992b). The study observed that some material was present on barge decks in spite of the use of nylon mesh netting over the garbage and housekeeping practices to keep the barge decks clean after loading and unloading.

The study attributed much of the material accumulated on barge decks to bird feeding activity. The procedures used at the MTSs, at Fresh Kills, and on the barges to prevent debris from entering the New York Harbor are described in the following section.

Based on the findings of the independent consultant's report required by the 1987 Consent Order, a new Consent Order was executed in February 1993. Under the terms of this Consent Order, the parties to the suit have agreed that the long-term approach to preventing solid waste from entering the water from Fresh Kills is the construction of a single-barge enclosed unloading system at the Fresh Kills Landfill. The construction of this facility is to be completed by March 31, 1998. The Consent Order also calls for the development of a protocol for the operation and maintenance of this facility.

### **3.2.3 Current Waste-Handling Procedures**

The waste-handling procedures at the MTSs, on the barges, and at the Fresh Kills Landfill described below are based on the NYC DOS *Revised Water Clean Management Plan* (draft as of April 13, 1990); NYC DOS *Water Quality Compliance Monitoring Team Protocol*; several volumes of the *City-Wide Floatables Study* (NYC DEP, 1990, 1991a, 1992b); the *1992 Study of the Effectiveness of Floatables Containment Systems at the Fresh Kills Landfill* (NYC DOS, 1992); and interviews with NYC DOS representatives.

#### **3.2.3.1 Marine Transfer Stations**

A MTS, a waste source facility under SPA is typically a two-story structure. The lower floor has one or two loading slips for the barges. Each slip is surrounded on three sides by closely spaced wooden stavings which extend from below the low-tide level to the main floor, approximately 8 feet above mean high water. The fourth side is open to allow barge movement (NYC DEP, 1990a). Trucks unload garbage directly onto the DOS barges from the tipping floor located on the upper level. The MTSs operate 8 or 24 hours per day, depending on the location. The MTSs operate six days per week (Monday through Saturday), excluding holidays (Begg, 1993). There is fixed lighting in each MTS. A summary of the MTS characteristics is provided in Exhibit 3-3.

Equipment, good housekeeping practices, and manual removal of debris are used to prevent floating garbage from entering the harbor from the MTSs. Proper waste-handling procedures at the MTSs are included in the *Water Clean Management Plan*.

A containment boom, which extends from about 1 foot above the water surface to 3 to 4 feet below the water surface, is placed across the mouth of each slip when a barge is being loaded. The boom is intended to prevent floatables lost during the loading operation from entering the harbor waters. A daily log of containment boom openings and closings is maintained. Floatables lost during the loading operations are removed by NYC DOS employees using dip nets prior to the boom being opened and the barge moved (NYC DEP, 1992b). In addition to the containment boom, a descending door that completely blocks the entrance is available at two of the MTSs (NYC DEP, 1990b).

# NYC DOS Marine Transfer Stations

MTS Name	Borough	No. of Barge Slips	Hours of Operation Per Day
Southwest	Brooklyn	1	24
Hamilton Ave.	Brooklyn	2	24
Greenpoint	Brooklyn	2	24
North Shore	Queens	2	24
South Bronx	Bronx	2	24
W. 59th St.	Manhattan	1*	8
W. 135 St.	Manhattan	2	24
E. 91 St.	Manhattan	2	8

\* – Two barges moor at one slip

Source: Beggs, 1993

Measures are also taken on the tipping floor to prevent debris from entering the harbor waters. The tipping floor is inspected at least once per shift to ensure that there is no debris that could potentially be blown into the water. Brooms and shovels are used to clean up materials on the tipping floor and catwalks. Cones or other barriers are used to seal off bays of the slip when a barge shift is made in order to prevent unauthorized unloading of garbage (NYC DOS, 1990a).

A study of the floatable retention efficiency of MTSs was conducted in 1989 and 1990 as part of the *City-Wide Floatables Study*. The study concluded that the MTS containment structures (i.e., booms and doors) are highly effective in preventing floatables from entering open waters. Use of the containment devices prevents significant amounts of floatables from leaving the MTSs even when no attempts at clean up are made (NYC DEP, 1990b). Current waste-handling practices require the use of dip nets and other means of collection at several points during the barge loading process.

### 3.2.3.2 Garbage Barges

The barges used to transport garbage from the MTSs to Fresh Kills are waste transport vessels as defined by SPA. As shown in Exhibit 3-1, there are 104 SPA-permitted NYC DOS barges for carrying municipal and commercial waste. They are 37 feet wide and 150 feet long on the outside and, on the inside, are 30 to 31.6 feet wide, 14.1 feet deep, and 130 feet long. Each barge has a capacity of 2,253 cubic yards or about 630 tons of garbage (NYC DEP, 1992b). Exhibit 3-4 shows the number of barges loaded per day at each of the MTSs in February 1993. NYC DOS protocol for barge loading indicates the acceptable draft of a fully-loaded barge is 9 feet and the acceptable peak height of a fully-loaded barge is 8 feet above the coaming. Waste height is measured with a pike pole which has the 8-foot level clearly marked (NYC DOS, 1990a). The time barge loading and unloading begins and ends is recorded. Tug shifts and hand shifts of barges at the MTSs are also recorded. A typical tow has three to four barges (Beggs, 1993). An average of 390 round-trip barge excursions between the MTSs and Fresh Kills are made each month (NYC DEP, 1992b).

To prevent floatables from the barges from entering harbor waters, several abatement measures are practiced. These and other waste-handling procedures for garbage barges are included in the *Water Clean Management Plan*. At the MTS, the barge decks are inspected for cleanliness upon arrival and any debris is swept into the barge. The barge decks are swept clean before the barge is moved within or from the MTS. The deck condition of barges incoming and departing from a MTS is recorded on the MTS Barge Cleanliness Report (NYC DOS, 1990a). Prior to departure, each barge is covered with a nylon mesh net to prevent garbage from being blown off while it is in transit. If the net tears during placement, a second net is placed over the garbage (Begg, 1993).

As part of the *City-Wide Floatables Study*, field studies were conducted to evaluate the amounts and types of floatables from the barges in transit to and from Fresh Kills. These studies indicate that it is unlikely that significant amounts of floatables are lost from full or empty barges in transit. However, these studies also indicate that sea birds pick at the garbage through the nets and re-deposit materials on the deck. For full barges, it was found that the number of items on the deck increased between the MTS and the staging area and decreased between the staging area and Fresh Kills. For empty barges, the number of items on the deck was highest at Fresh Kills and lowest at the MTS. These observations suggest that some material is lost from the barges while in transit (NYC DEP, 1992b).

# Amount Of Time To Transfer Garbage From MTS to Barge, February 1993

MTS Name	Hours of Operation Per Day	Barges Loaded Per Day	Loading Time per Barge by Hours of Operation (in hours)*
Southwest	24	1.77	13.5
Hamilton Ave.	24	4.36	5.5
Greenpoint	24	3.59	6.7
North Shore	24	3.68	6.5
South Bronx	24	2.82	8.5
W. 59th St.	8	1.23	6.5
W. 135 St.	24	2.23	10.8
E. 91 St.	8	0.73	10.9

\* Calculated from first two columns

Source: Beggs, 1993

The leachate or water present in the hopper is generally absorbed by the paper in the garbage. There is a bilge compartment in the bottom of the barge. All barges are also sounded, that is measured for standing water, upon arrival at a MTS and at the start of every subsequent shift and prior to departure from a MTS. At Fresh Kills, barges are sounded two times per shift while at the West Mooring Rack, located outside the Super Boom, where loaded and empty barges are staged. Excess water is pumped into the sanitary sewer system when available. Or, when that is not an option, excess water is left on the barge until a sewer is available (NYC DOS, 1990a). All soundings are recorded.

At Fresh Kills, barges are cleaned and debris swept back into the barge after being unloaded (NYC DOS, 1990a). Deck conditions on arrival and departure from the off loading area are recorded on the Daily Digging Activity-Barge Cleanliness Report (NYC DOS, 1990a). Digging is the process of removing the garbage from the barge with a crane. Barges with partial loads, which are to be moved prior to completion of the unloading process, are cleaned prior to the shift.

### **3.2.3.3 Fresh Kills Landfill**

The Fresh Kills Landfill is a waste receiving facility under SPA. At Fresh Kills, garbage is off-loaded from the barge using a hydraulic crane or clamshell bucket. Each barge takes about 2.5 hours for crane unloading during an 8-hour shift and 1.75 hours digging time (Beggs, 1993). The time barge unloading begins and ends is recorded. Fresh Kills operates Mondays through Friday and half a day on Saturday. There is fixed lighting at the mooring areas.

Waste-handling procedures at Fresh Kills are included in the *Water Clean Management Plan*. Structures and procedures used to prevent debris from being lost during the transfer process include: 1) booms (a Super Boom and an Outer Boom) to retain floatables within Fresh Kills; 2) skimmer vessels; 3) clean up crews to collect debris from the shoreline within the facility; 4) a system of fences along the shoreline and the roads crossing the tributaries; 5) covering procedures on the open face of the landfill; 6) methods for docking barges which deter loss of materials during offloading; and 7) use of dip nets to retrieve water-borne litter between moored barges and the catwalk (NYC DEP, 1992b; and NYC DOS, 1990a).

Water cleanliness is recorded on a number of forms. These include the Daily Skimmer Activity Log, Water Cleanliness Ratings, and the Daily Skimmer Boat Report. Operations at the landfill are also observed by NYC DOS environmental officers who measure the amount of floatables in nearby waters and by an independent monitor who sends bi-monthly reports to the NYC DOS and to other government agencies about the amount of floatables in the Fresh Kills water.

A study of the effectiveness of the containment systems at Fresh Kills was conducted in 1992. The abatement practices at Fresh Kills were found to be 100 percent effective in removing surface floatables (NYC DOS, 1992).

### **3.2.4 Actions Needed to Achieve Compliance**

Exhibit 3-5 summarizes the current level of compliance of the industry segments dealing with uncontainerized garbage affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that these industry segments are currently in compliance with the proposed

# Current Level Of Compliance: Uncontainerized Garbage

## Shoreside Facilities:

Provision of Proposed Reg. Segment	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
			Equipment	Cleanups	Placard		
Marine Transfer Stations (NYC)	100%	100%	100%	100%	0%	0%	100%*
Fresh Kills	100%	100%	100%	100%	0%	0%	100%*

## Vessels:

Provision of Proposed Reg. Segment	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
	Garbage Deposit Prevention	Leachate Control Valve & Seals		Equipment	Cleanups & O&M	Placard	Develop Form	Record Deposits	Maintain Records
Garbage Barges NYC DOS	100%	100%	100%*	100%	100%	0%	0%	0%	0%

\* Facilities have O&M manuals, but they may not be fully in compliance with the proposed regulations

Source: NYC DOS

cyco

regulation, with the exceptions of having the required placard and waste deposit records. While these industry segments have O&M manuals, they will need to be reviewed by the New York City Department of Sanitation and EPA to determine if they are fully in compliance with the proposed regulation. No other compliance activity should be needed.

### **3.3 Packaged Garbage**

As shown in Exhibit 3-1, there are eight industry segments affected by SPA in the category of packaged garbage, that is garbage already bagged, or in cardboard boxes or other containers before being offloaded from an offshore facility to a vessel for transport to shore. (Note that one of these segments, offshore supply boats, is also an industry segment in drilling muds and cuttings; see Section 3.5.) These vessels typically serve the oil and gas industry, vessels anchored offshore, or islands used as parks or resort areas. Each of the three situations is described separately below. A summary of the waste flow of packaged garbage subject to SPA is shown in Exhibit 3-6.

#### **3.3.1 Packaged Garbage from the Offshore and Inland Oil and Gas Industry**

##### **3.3.1.1 Affected Parties**

As explained in Chapter 1 and illustrated in Exhibit 3-6, the transfer of packaged garbage from the platform to the transporting vessel is covered by MARPOL Annex V and is not subject to the provisions of the proposed SPA regulation. Therefore, only transport vessels (barges and offshore supply boats) and receiving facilities are segments affected by the proposed SPA regulation for this type of waste. Packaged garbage from offshore oil and gas platforms is generated in three regions of the country -- the Gulf of Mexico (EPA Regions 4 and 6), southern California (EPA Region 9), and Alaska (Region 10). The inland platforms from which packaged garbage is transported are all along the Gulf coast. Since the overwhelming majority of the platforms are in the Gulf of Mexico, it is not surprising that the largest number of transporting vessels and receiving facilities for packaged garbage from offshore oil and gas platforms is also in the Gulf of Mexico.

##### **3.3.1.2 Factors Affecting Waste-Handling Procedures**

The procedures used by the offshore oil and gas industry primarily reflect Minerals Management Service (MMS) requirements for activities in Federal waters, provisions in the EPA National Pollutant Discharge Elimination System general permits, the provisions of MARPOL Annex V, and industry practices and standards.

MMS regulations (30 CFR 250) prohibit the deliberate discharge of containers or garbage and debris in the marine environment and require equipment, tools, containers, and materials weighing more than 40 pounds to have a durable operator identification marking. MMS has also issued *Guidelines for Reducing or Eliminating Trash and Debris in the Gulf of Mexico*, NTL No. 86-11 (MMS, 1986). These guidelines reiterate the regulations prohibiting deliberate discharge of containers, garbage and debris, and requiring durable marking of equipment. They also recommend that operators use solid waste reduction methods such as compaction, that they develop a training and awareness program on the consequences of debris in the marine environment, and that industry implement a control system to account for proper disposal of wastes (MMS, 1986).



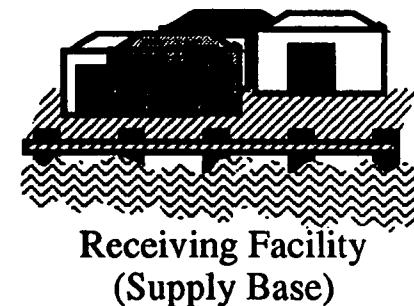
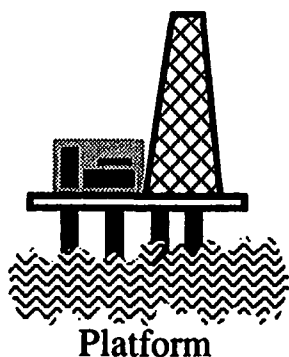
# Waste Flows Subject To SPA: Packaged Garbage

Chapter 3.0

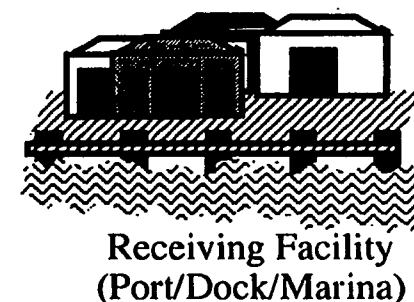
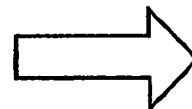
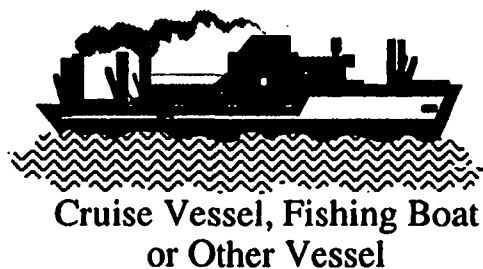
3-13

Affected Industry Parties

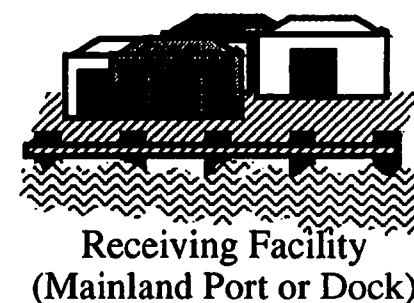
## a. Oil and Gas Industry



## b. Vessels Anchored Offshore



## c. Islands



Key: = Transfer covered by SPA

= Transfer not covered by SPA

The regulations for MARPOL Annex V, an international treaty which restricts at-sea disposal of garbage generated on vessels and offshore platforms, also affect offshore oil and gas industry waste-handling procedures. Under MARPOL Annex V, only ground food waste can be disposed of at sea from platforms and then only at distances of 12 miles or more from shore. The transfer of the garbage from the platform to the waste transporting vessel is covered under the implementing regulations for MARPOL Annex V (33 CFR 151 and 158). However, the transporting vessel and the transfer to shore at the receiving facility is covered by the Shore Protection Act. (Note: the operational wastes of the waste transporting vessel are covered under MARPOL Annex V. It is only the wastes being transported from the platform that are covered by SPA.)

The NPDES general permits issued by EPA prohibit the discharge of "floating solids" and "rubbish, trash, and other refuse" from offshore platforms.

The Offshore Operators Committee (OOC), the offshore oil and gas industry trade association in the Gulf of Mexico, has developed an active program on waste handling. The OOC Environmental Waste Handling-Recycling AD HOC Committee was established to develop and encourage industry-wide strategies and procedures to reduce and improve handling of non-hazardous solid wastes generated offshore. (The MMS, U.S. Coast Guard, and the National Park Service are members of this committee.) The AD HOC committee developed and is implementing a four-phase plan to address increasing concern about marine debris from the oil and gas industry in the Gulf of Mexico. The four phases will: 1) establish industry marine debris benchmarks; 2) identify offshore waste management practices and areas for improvement; 3) provide industry-wide educational tools; and 4) establish community linkages with the industry through programs such as recycling and beach cleanups. As of March 1993, only Phase I had been completed. However, a list of proactive management practices for non-hazardous solid wastes was developed and disseminated. Among the suggestions in the guidelines are the use of a net or hard cover for baskets during transport and the use of reusable fiberglass trash bags for transporting recyclables and wastes not stored in covered containers (OOC, 1992).

### **3.3.1.3 Current Waste-Handling Procedures**

The waste-handling procedures described below are based on interviews with industry representatives and an OOC study of the waste-handling practices of its members.

Operational, galley, and household wastes from offshore platforms are collected and typically stored in covered bins, compactors, or containers. Occasionally, bagged garbage is thrown onto crew boats for transport to shore. Crew boats occasionally taking garbage from oil platforms to shore, however, would not be subject to SPA regulations because the transport of garbage is not the primary reason for their trip.

In the Gulf of Mexico, 75 percent of the companies responding to a survey of waste-handling practices on offshore platforms indicated that they always provide covered bins. Less than 3 percent said they never did (OOC, 1990). Garbage is typically transported to shore in a covered basket, an uncovered basket, a compactor bag, and/or a dumpster or similar container (OOC, 1990). Garbage generated on the emergency standby vessel is either offloaded to the platform and then transferred to a supply boat returning to shore or taken to shore directly on its return trip. In both situations, the garbage is covered by the MARPOL Annex V regulations since it is garbage generated in the course of normal operations.

On inland platforms (e.g., those inside the intracoastal waterway), an empty dumpster is typically brought to the platform on a flat-deck barge carrying other supplies. The barge is moored adjacent to the platform. Bagged garbage is put in the dumpster and taken in the dumpster to shore when the barge is returned to shore. The dumpster is lifted by crane to the supply base dock where its contents are emptied and taken by waste hauling trucks to its final disposition.

In Southern California dumpster-like containers or cargo bins are rented from a crane company by an oil company for use on a platform. When full, these covered containers are loaded onto a transporting vessel by a crane on the platform. Contact between the crane operator and the vessel during the transfer operation is typically maintained by two-way radio. Other deck cargo, such as rig equipment and scrap metal, may be taken to shore at the same time in order to use the vessel's capacity. The containers are secured to the deck to prevent shifting or loss during transport. At the dock, the containers are removed from the transporting vessel by dockside cranes and dumped into a larger container which is taken offsite for disposal when it is full. On average the bin is dumped once every 2 weeks (Brunetti, 1993; Onesti, 1993; Sutton, 1993; Zermeno, 1993).

Estimates of the amount of packaged garbage transported from oil and gas platforms to shore are limited. Exhibit 3-7 is an example of the landfilled non-hazardous waste from offshore operations for one major oil company in the Gulf of Mexico during a 5-year period. The increase in waste shown in this exhibit has not accompanied a significant increase in personnel, drilling, or production activity according to the company (Babin, 1991). This company has launched a three point program to reduce the amount of wastes which are landfilled – generate less waste, recycle as much as possible, and reduce the volume and cost of landfilled waste. Only the first point, generating less waste through changes in purchasing practices, will affect the amount of garbage carried to shore by vessels.

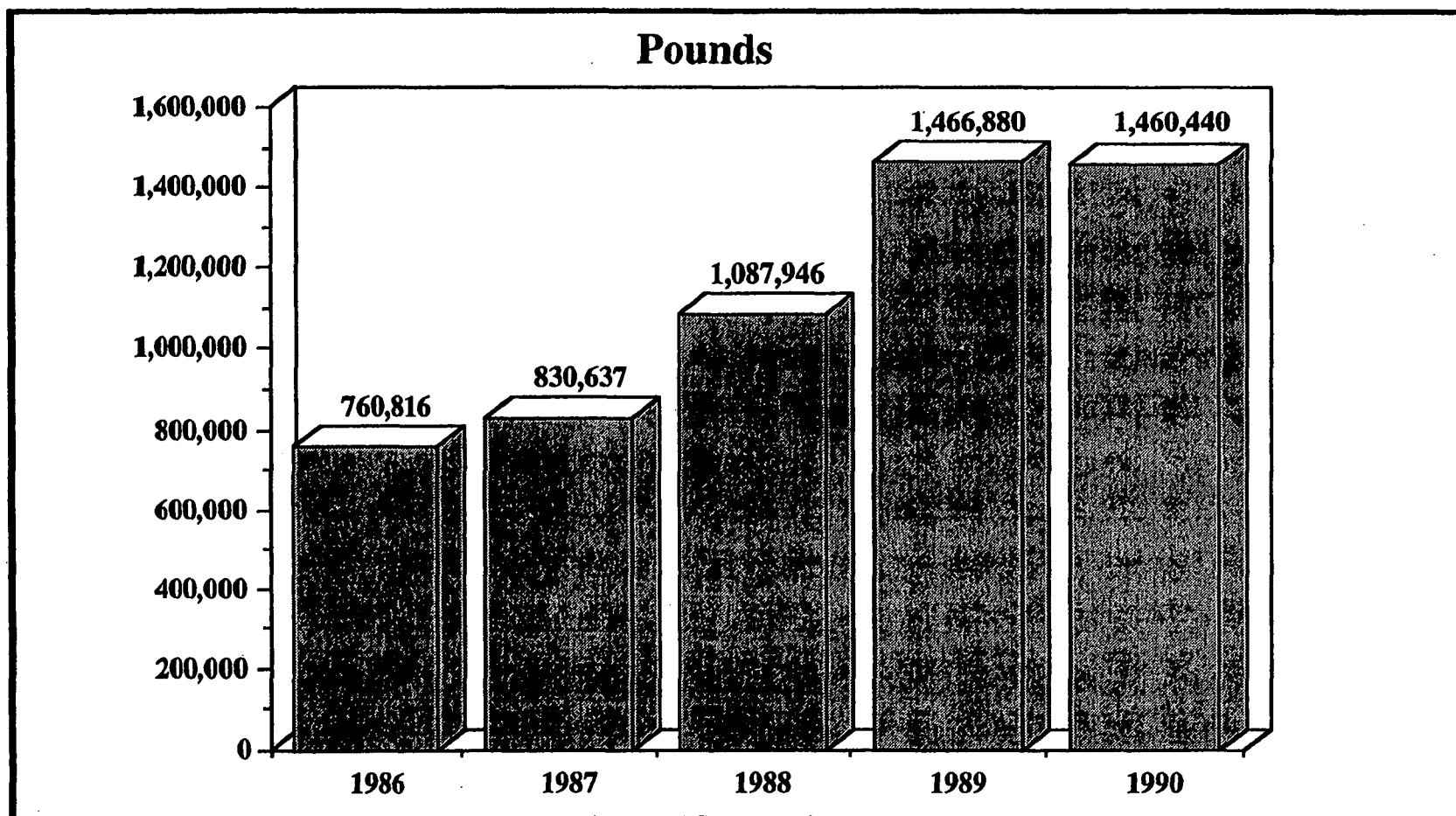
#### 3.3.1.4 Actions Needed to Achieve Compliance

Exhibit 3-8 summarizes the current level of compliance of the industry segments dealing with packaged garbage from the oil and gas industry affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that all owners/operators of supply bases (receiving facilities under SPA) will need to place a placard at their facilities and develop waste deposit records in accordance with the proposed regulation. A portion of these facilities (estimated at 75 percent of small companies and 10 percent of large ones) will also need to purchase equipment such as a dip net, boat hook, and/or harness for use with a crane in the event of a spill. In addition, about 90 percent of small companies and 70 percent of large ones will need to develop an O&M manual.

The owners/operators of vessels carrying packaged garbage from the offshore oil and gas industry will need to place a placard on each vessel, develop O&M manuals, and develop waste deposit records in accordance with the regulation. In addition, about 25 percent of the vessel companies will need to purchase some equipment such as a dip net, boat hook, or harness for use with a crane.

Barges servicing the inland platforms will need a placard on each vessel, as well as O&M manuals which include waste handling procedures. These vessels will also need to develop forms for recording waste deposits. In addition, an estimated 25 percent of these barges will need to be equipped with dip nets and boat hooks to clean up waste deposits.

## Sample Firm's Yearly Landfilled Non-Hazardous Waste, 1986 To 1990\*



Source: Babin, 1991

\*Excludes wastes subject to RCRA exemption for drilling muds and cuttings

# Current Level Of Compliance: Packaged Garbage From The Offshore And Inland Oil And Gas Industry

Chapter 3.0

## Shoreside Facilities:

Segment	Provision of Proposed Reg.	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
				Equipment	Cleanups	Placard		
Supply Bases		Small/large 25%/90%	100%	Small/large 25%/90%	Small/large 25%/90%	0%	0%	Small/large 10%/30%

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## Vessels:

Segment	Provision of Proposed Reg.	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
		Garbage Deposit Prevention	Leachate Control: Valve Seals		Equipment	Cleanups & O&M	Placard	Develop Form	Record Deposits	Maintain Records
OSVs Handling Garbage (and Drilling Muds and Cuttings)		75%	100% *	0%	75%	100%	0%	0%	0%	0%
Barges Handling Garbage from Inland Rigs		100%	N/A	0%	75%	100%	0%	0%	0%	0%

\* Leachate control does not apply; estimate pertains to labeling and sealing valves

Source: Tetra Tech, 1993

Affected Industry Parties

### **3.3.2 Packaged Garbage from Vessels Anchored Offshore**

#### **3.3.2.1 Affected Parties**

Large vessels which do not moor at dockside are serviced by local service vessels, called tenders. This would occur when vessels are too large for the berthing space at the port being visited and in ports where no berths are available because of the volume of traffic at the time. Both of these situations can occur for the cruise industry and do occur for the cruise industry in Alaska. Other reasons that cruise vessels moor offshore include the cost, since mooring offshore eliminates dockage and wharfage fees, and schedule. If a vessel has just come from a port and has been fully serviced, it does not need to come to the dock (Geldecker, 1993).

#### **3.3.2.2 Factors Affecting Waste-Handling Procedures**

The wastes from vessels anchored offshore and transported by service vessel to shore are covered by SPA. However, the transfer of the waste to the service vessel is covered by MARPOL Annex V, which addresses at-sea disposal of vessel-generated wastes. At-sea disposal of plastics is always prohibited and at-sea disposal of other materials is restricted depending on distance from shore. The amount of garbage needing to be disposed of in port varies depending upon several factors, including the type of solid waste management equipment (e.g., incinerators) available on board. (Note: The operational wastes of the waste transporting vessel are covered under MARPOL Annex V. It is only the wastes from the vessel anchored offshore being transported that are covered by SPA.)

Wastes offloaded from vessels coming from foreign countries other than Canada are also covered under U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) regulations. APHIS regulations require that wastes containing plant or animal material offloaded in a U.S. port coming from a foreign country be treated at an approved facility by steam sterilization, incineration, or grinding into an approved sewage system under the supervision of an inspector. Regulated garbage must be stored in small leakproof, covered containers which are securely closed. These containers are then placed in a shipping or handling container that is also leakproof. The outer container is conspicuously marked as regulated garbage. Regulated garbage is transported by APHIS-permitted waste hauling companies in covered, leakproof carriers. Hauling company personnel must be trained in handling regulated garbage, including procedures for reporting and handling emergency spills. Transportation and disposition records are maintained. APHIS-approved disposal facilities or APHIS-approved hauling companies are not available at all ports.

#### **3.3.2.3 Current Waste-Handling Procedures**

The waste-handling procedures for service vessels to the cruise industry in Alaska described below are used as examples of packaged wastes from vessels anchored offshore. The description is based on interviews with industry representatives.

The cruise season in Alaska runs from May through September. Arrangement for garbage pickup is typically made through the ship's agent who in turn notifies the company providing the garbage transport service of the ship's date and time of arrival. A ship's stay in port is variable, but is made primarily during daytime hours. In Juneau, for example, the stay is a minimum of 6 hours and may be up to 12 hours (Cheeseman, 1993). In Sitka, a 4-hour stay is more typical (Olsen,

1993). The ship typically has garbage pickup service once during its stay. For those vessels requiring tender service, the service vessel makes as many trips as necessary to pickup the volume of garbage to be disposed. One trip is usually sufficient, but two trips are sometimes required. Exhibit 3-9 is a summary of the ship calls expected at each of these three ports during the 1993 season and an estimate of the number of times these ships will be serviced by tenders, which are permitted under SPA. As shown in Exhibit 3-9, an estimated 5,960 tons of garbage will be transferred to shore from cruise vessels in Alaska by tenders during the 1993 season. It should be noted that although the number of tourists arriving in Alaska by cruise vessel is increasing, the increase in garbage to be offloaded is not proportional because the newer cruise vessels have more on-board technology (e.g., incinerators and grinders) for use in disposing of waste (Cheeseman, 1993).

Garbage from the cruise ships is packaged, that is bagged, double bagged, or in boxes or other containers when it is picked up. The packaged garbage is offloaded into a container on the service vessel. The type of container and service vessel differs by port. The approach used in three ports to service vessels anchored offshore is described below.

In Sitka, the company providing this service uses a barge with a container with an open top. Generally, one container is needed but the barge can hold up to three. The barge is fitted with a fork lift and a crane. When the barge is in position next to the ship, the forklift is used to lift the ship's dumpster from the loading area and empty the dumpster's contents into the container. A tarp is secured to the container to cover its contents during transport. Dockside, a crane is used to lift the container onto a truck which is then used to transport the container and its contents to its ultimate disposal site, an incinerator. Liquid wastes are not accepted. The company reports no loss of garbage during transfer because it is self-contained. There are no established procedures for handling a garbage spill. The barge is equipped with a pole which could be used to retrieve debris should a spill occur. Similarly, leachate has not been a problem because the garbage is bagged or double bagged (Olsen, 1993).

In Juneau, a 56-foot landing craft, which holds a container with a 40 cubic yard capacity, is used. Packaged garbage from the cruise ship is tossed into this container by the ship's personnel. When all garbage has been transferred or the container is full, a tarp is pulled over the top of the container and secured. In the event the packaged garbage misses the container during the transfer, personnel on the landing craft use a boat hook to retrieve it and retrieve loose garbage by hand. The company reports that the need to retrieve garbage from the water is rare because awareness of MARPOL Annex V regulations causes personnel to use greater caution when transferring wastes over water. Dockside, the covered container is rolled off the landing craft onto a truck which carries the wastes to a landfill or an incinerator for ultimate disposal. As in Sitka, the garbage is self-contained during the transfer to shore and the company reports no incidence of spillage during the transfer to shore (Cheeseman, 1993).

In Ketchikan, a barge loaded with empty trucks is used to service vessels anchored offshore. Once alongside the ship, packaged garbage is transferred from the ship's loading bay to the trucks on the barge. Dockside, the trucks are taken off the barge and then used to transport the garbage to a local landfill (Sharp, 1993).

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## Summary Of Cruise Ships In Alaska, 1993 Season

Port	Number of Individual Ships Making Calls	Number of Port Calls	Estimate of Sailings Served by Tenders		Estimated Tons of Garbage Tendered to Shore <sup>1</sup>
			Number	Percent	
Juneau	24	350	175	50	1,680
Ketchikan	28	421	105-139	25-33	1,680
Sitka	21	271	271	100	2,600
Total	NA	1,042	551-585	53-56	5,960

NA – Not available

Sources: Carlson, 1993; Olsen, 1993; Cheeseman, 1993; Jones, 1993; Geldecker, 1993; and Sitka Department of Tourism, 1993

<sup>1</sup> Based on the following: about 1,600 tons of garbage was offloaded from cruise vessels by tenders in Juneau in 1992. This is also representative of that offloaded from cruise vessels to tenders in Ketchikan in 1992 (Cheeseman, 1993). The garbage to be offloaded from cruise vessels to tenders is estimated to increase by 5 percent in 1993 (Cheeseman, 1993). A per ship call unit of garbage was derived from the estimate for Juneau (9.6 tons per call) and applied to the number of ship calls serviced by tenders expected in Sitka in 1993 (271) to yield the estimate of garbage offloaded to tenders in Sitka in 1993.



#### **3.3.2.4 Actions Needed to Achieve Compliance**

Exhibit 3-10 summarizes the current level of compliance of the industry segments dealing with packaged garbage from vessels anchored offshore affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that owners/operators of transporting vessels will need to develop an O&M manual, place a placard on each vessel, and develop waste deposit records in accordance with the requirements of the proposed regulation. Owners/operators of receiving facilities for packaged garbage from vessels anchored offshore will also need to place a placard at their facilities, develop an O&M manual, and undertake activities related to waste deposit records in accordance with the proposed regulations.

#### **3.3.3 Packaged Garbage from Islands**

##### **3.3.3.1 Affected Parties**

There are two known areas where vessels carry wastes from islands. In New York, there are five SPA-permitted vessels which carry wastes from Fire Island, a summer resort area, to the mainland. The other area is Boston Harbor where there is one permitted vessel that carries waste from Georges Island, which is part of the Boston Harbor Islands State Park. Other islands in that State Park have a carry on/carry off policy (McCormick, 1993). In both of these situations, garbage pickup is seasonal.

##### **3.3.3.2 Factors Affecting Waste-Handling Procedures**

The factors affecting waste-handling procedures in this category relate primarily to the fact that the wastes are generated on islands which are used seasonally. There are some residences on Fire Island as well as the National Seashore. Georges Island is, however, a State park.

##### **3.3.3.3 Current Waste-Handling Procedures**

In this situation, the wastes originate on land, are transported by vessel to shore, and are disposed of onshore. An example of this situation is Georges Island, part of the Boston Harbor Island State Park. The waste-handling procedures for wastes from Georges Island described below are used as an example of packaged wastes from islands. The description is based on interviews with industry representatives.

A landing craft operated by the Metropolitan District Commission is used to transport private and maintenance vehicles between the mainland and Georges Island. Under SPA, this craft is a waste transport vessel. The craft typically make two round trips to the mainland per day between early May and late November. Garbage from Georges Island (the waste source facility under SPA) is collected in bags and placed into a "packer" located on a 1-ton dump truck. The packer is a smaller version of a city garbage truck and consists of a solid body frame with doors on the side where the garbage is loaded. The packer is used to compact garbage. The packer has a capacity of 10 cubic yards and is self-contained. Therefore, no garbage is exposed to the water or surrounding environment. The dump truck with the packer is transported to the mainland by the landing craft where the garbage is then offloaded to a dumpster, the waste receiving facility under SPA. Dumpsters on the mainland have a 30 yard capacity and are under contract from private disposal companies. Although no spills are reported to have taken place, equipment available for use should one occur includes rakes, shovels, and gloves (McCormick, 1993).

# Current Level Of Compliance: Packaged Garbage From Vessels Anchored Offshore

## Shoreside Facilities:

Provision of Proposed Reg. Segment	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
			Equipment	Cleanups	Placard		
Receiving Packaged Garbage from Vessels	100%	100%	100%	100%	0%	0%	0%

## Vessels:

Provision of Proposed Reg. Segment	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
	Garbage Derelict Prevention	Leachate Control Valve Seals		Equipment	Cleanups & O&M	Placard	Develop Forms	Record Deposits	Maintain Records
Vessels Handling Garbage from Vessels	100%	N/A	0%	100%	100%	0%	0%	0%	0%

N/A - Not applicable

Source: Tetra Tech, 1993

#### **3.3.3.4 Actions Needed to Achieve Compliance**

Exhibit 3-11 summarizes the current level of compliance of the industry segments dealing with packaged garbage from islands affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that the owners/operators of the waste sources and receiving facilities will need to place a placard at their facilities, develop an O&M manual, and develop and maintain waste deposit records in accordance with the proposed regulation. Since not all of the facilities have the required waste deposit cleanup equipment, purchase of items such as dip nets and/or boat hooks will be required of about 20 percent of the facilities. The owners/operators of the transporting vessels will need to develop an O&M manual, place a placard on each vessel, and undertake all the activities related to the waste deposit records in order to be in compliance with the proposed regulation.

### **3.4 Sewage Sludge**

#### **3.4.1 Affected Parties**

As shown in Exhibit 3-1, there are three industry segments affected by SPA in the category of sewage sludge. A summary of the waste flow of sewage sludge subject to SPA is presented in Exhibit 3-12.

#### **3.4.2 Factors Affecting Waste-Handling Procedures**

Sewage sludge handling facilities operate under permits from State environmental protection agencies. The permit dictates the conditions under which the facility can operate. For example, all sludge transfer operations may be restricted to dry weather only. Health and safety hazards associated with sewage also affect the procedures used.

#### **3.4.3 Current Waste-Handling Procedures**

In this situation sewage sludge is transported from a land-based waste source by vessel to a land-based receiving facility. The waste-handling practices for transporting sewage sludge in New York City described below are an example of waste-handling procedures for this type of waste. The description is based on interviews with New York City Department of Environmental Protection (NYC DEP) personnel and the agency's spill prevention manual.

In New York City, sewage sludge is transported by underground pipeline from the treatment plant to a large storage tank dockside on Wards Island. This tank is the waste source facility under SPA. The transfer of sludge from the storage tank to the vessel tanks (the waste transport vessel under SPA) is performed using the shoreside manifold (pipe valve on the dock which is connected to the storage tank), a 12-inch hose, and the vessel's gate valve connection. When the vessel is alongside the dock, the hose is connected to its receiving valve. Each hose connection uses a "quick-connect" coupling mechanism to ensure a sealed connection (i.e., a screw that has three claws which are connected to a flange - various twists/turns seals the connections). The tank and vessel valves are then opened for the load to be pumped into the vessel tanks. The valves on dockside pumps are labelled with open/close indicators (such as arrows) (Mroz, 1993; Tobin, 1993).

# Current Level Of Compliance: Packaged Garbage From Islands

## Shoreside Facilities:

Segment	Provision of Proposed Reg.	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
				Equipment	Cleanups	Placard		
Islands (sources)		100%	100%	80%	100%	0%	0%	0%
Receiving Packaged Garbage from Islands		100%	100%	100%	100%	0%	0%	0%

## Vessels:

Segment	Provision of Proposed Reg.	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
		Garbage Deposit Prevention	Leachate Control Valve Seals		Equipment	Cleanups & O&M	Placard	Develop Form	Record Deposits	Maintain Records
Vessels Handling Garbage from Islands		100%	N/A	0%	100%	100%	0%	0%	0%	0%

N/A – Not applicable

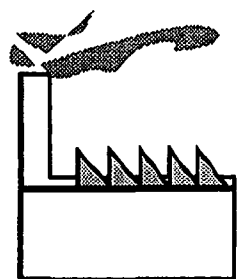
Source: Tetra Tech, 1993

## Waste Flow Subject To SPA: Sewage Sludge

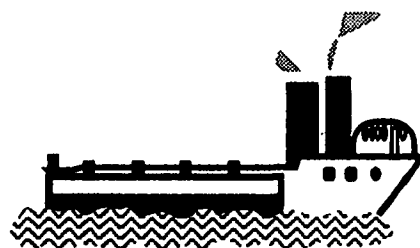
Chapter 3.0

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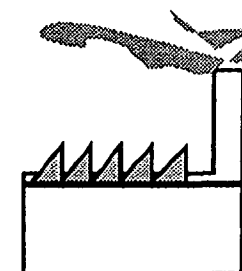
Affected Industry Parties



Transfer Station



Sludge Barge



Receiving Facility

Key:  = Transfer covered by SPA

Other pump valves used are the vessel's gate valves which are equipped with a rising stem (i.e., when the valve is open, the stem is in the raised position; when the valve is closed, there is no stem apparent). All valves, therefore, have "visual" mechanisms to indicate the open/close status, but have no actual written labels. The vessel loading dock and the vessel both have lighting equipment for use during evening-hour transfers. There are large lights spaced evenly apart on the dock facility. The vessel has a high-power spotlight which is aimed directly on the transfer connection when at the receiving facility.

When the transfer is completed, the tank valves are shut off and connections secured. The hose used for the transfer is blasted with an air pump to remove any excess matter from the hose into the vessel tank (a.k.a. "clearing the line"). The vessel valves are closed and secured and the hose is disconnected. A 55-gallon "catch" drum is placed beneath the manifold connection in order to catch any drips during the hose disconnection. When the drum is full, the sludge is returned to the storage tank. Spills during transfer of sludge to the vessel generally do not occur because of the secure valve mechanisms, but if one were to, the dock facilities have equipment on hand to handle spilled material. This includes a spill-containment boom, various types of absorbent material, wood used to form a barrier (for spills on dock), and other hand cleanup materials (e.g., rags) (Mroz, 1993; Tobin, 1993).

Three vessels are used to transport sludge consolidated on Wards Island from four treatment plants to four dewatering plants, the waste receiving facilities under SPA. Two vessels are operated and the third is used as a backup. Two vessels hold a volume of about 92,000 cubic feet. The third vessel holds about 50,000 cubic feet. The larger vessels are generally in operation. Typically, each vessel makes two trips during the 12-hour shift, a total of four round trips to a dewatering plant daily. On average, 200,000-300,000 cubic feet of sludge is transferred per day, six days a week (Mroz, 1993; Tobin, 1993).

When the vessels reach the dewatering facility, the transfer of sludge is made using the same pump/hose transfer method as used on Wards Island. The sludge is transferred into intermediate holding tanks. There are two pump/hose hook-ups available for transfer at the dewatering plants, but only one is typically used at any one time. If a spill should occur during the tank loading procedure while at the receiving facility, the facility is responsible for cleanup procedures. In such a case, both the vessel and dock personnel would record the spill incident.

The waste-handling procedures are detailed in a spill prevention manual which covers: accidents, person in-charge duties, inspector duties, loading city sludge vessels and barges, topping off procedures, completion of transfer procedures, containment procedures, pump off procedures for city sludge vessels, harbor transit procedures, emergency operating procedures for loss of tug services, and emergency telephone numbers (NYC DEP, n.d.).

In the event of a spill, all sludge transferring stops and the sludge transfer crew is required to inform EPA Region 2, the U.S. Coast Guard, and the NYC DEP Administrator or Marine Operations (NYC DEP, n.d.). The NYC DEP Marine Division reports all significant spills (i.e., described as greater than a "barrel's-worth") to the NYS DEC. The official report is sent to NYS DEC by the NYC DEP Process Control Section, Bureau of Clean Water in the form of a letter (Mroz, 1993).

Other reporting forms required by NYC DEP Marine Division personnel include the Captain's Log entry and the Sludge Loading Record. The Captain's Log entry is filled out once per shift.

The Sludge Loading Record is filled out each time a vessel is loaded during the shift; most likely, a maximum of four times per shift (Mroz, 1993).

#### **3.4.4 Actions Needed to Achieve Compliance**

Exhibit 3-13 summarizes the current level of compliance of the industry segments dealing with sewage sludge affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that the owners/operators of the sewage sludge waste sources and receiving facilities will need to place a placard at their facilities and review their existing O&M manuals for compliance with the proposed regulation. About 14 percent of the waste sources and all of the receiving facilities will need waste deposit records. The owners/operators of the sewage sludge barges will need to develop an O&M manual, place a placard on each vessel, and undertake all the activities related to waste deposit records in order to be in compliance with the proposed regulations.

### **3.5 Drilling Muds and Cuttings**

#### **3.5.1 Affected Parties**

As shown in Exhibit 3-1, there are four industry segments affected by SPA in the category of drilling muds and cuttings, which are: 1) offshore supply vessels; 2) hopper barges and deck shale barges (considered as one segment); and 3) reception/treatment facilities. (Note that the first segment, offshore supply boats, is also an industry segment in packaged garbage and is discussed in Section 3.3.) A summary of the waste flow of drilling muds and cuttings is presented in Exhibit 3-14. Although the drilling muds and cuttings sources (offshore, inland, and shore-based oil and gas platforms) are not affected by the proposed SPA regulations, these industry segments are discussed below to provide the entire waste flow process.

#### **3.5.2 Factors Affecting Waste-Handling Procedures**

The transport of drilling muds from platforms and rigs to shore and the transfer from the vessel to shore are covered by SPA. However, the transfer of the drilling muds to the vessel is covered by the NPDES. State regulations on discharge of drilling muds and cuttings differ. For example, Louisiana prohibits the discharge of any drilling muds or cuttings into State waters (Catrou, 1993), while there are no discharge regulations in Alabama (Helmich, 1993).

#### **3.5.3 Current Waste-Handling Procedures**

The waste-handling procedures for drilling muds and cuttings differ somewhat depending upon where they originate — from inland oil and gas platforms located in intracoastal waterways such as lakes, bays, or rivers, from offshore oil and gas platforms, or from shore-based oil and gas wells, or pits (see Exhibit 3-14). Although each of these uses a different transport mechanism to the waste disposal site, the final reception facility for the waste is the same. The waste-handling procedures at the oil and gas platforms, on barges and offshore supply boats, and at the reception facilities described below are based on interviews with industry and trade association representatives in the Gulf of Mexico since most oil and gas platforms are located in that geographic area of the country. The description of waste-handling practices is organized as follows. First, a separate description of each of the waste generators is provided in order to provide a context for the waste transfers which come later in the disposal process. This is followed by a discussion of the transfer station-hopper barge where drilling muds and cuttings

# Current Level Of Compliance: Sewage Sludge

## Shoreside Facilities:

Segment	Provision of Proposed Reg.	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
				Equipment	Cleanups	Placard		
Sewage Sludge Sources		100%	100%	100%	100%	0%	86%	100%*
Sewage Sludge Receiving		100%	100%	100%	100%	0%	0%	100%*

## Vessels:

Segment	Provision of Proposed Reg.	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
		Garbage Deposit Prevention	Leachate Control Valve & Seals		Equipment	Cleanups & O&M	Placard	Develop Form	Record Deposits	Maintain Records
Sewage Sludge Barges		100%	100%	0%	100%	100%	0%	0%	0%	0%

\*Facilities have O&M manuals, but they may not be fully in compliance with the proposed regulations

Source: Tetra Tech, 1993



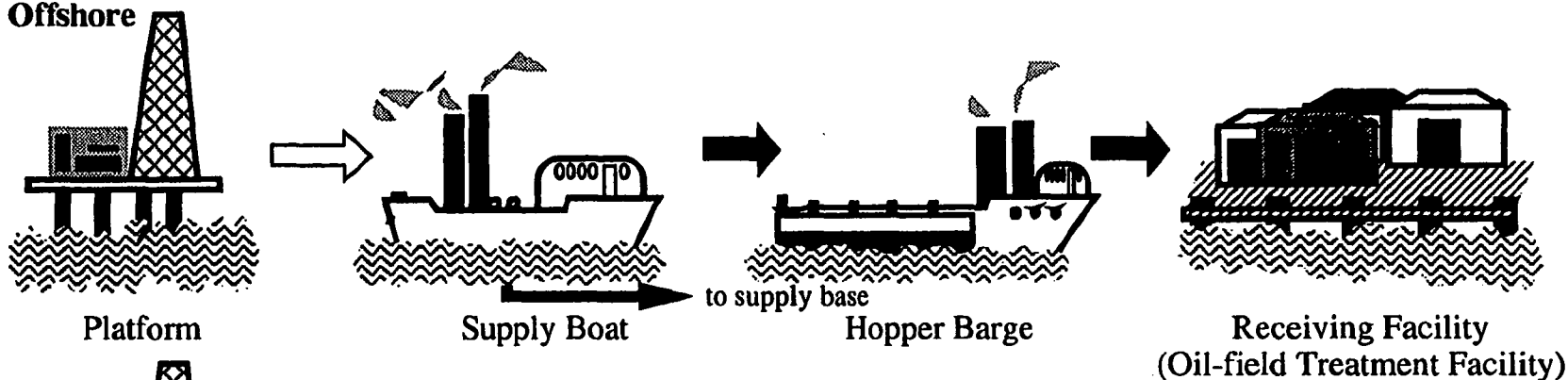
# Waste Flows Subject To SPA: Drilling Muds And Cuttings

Chapter 3.0

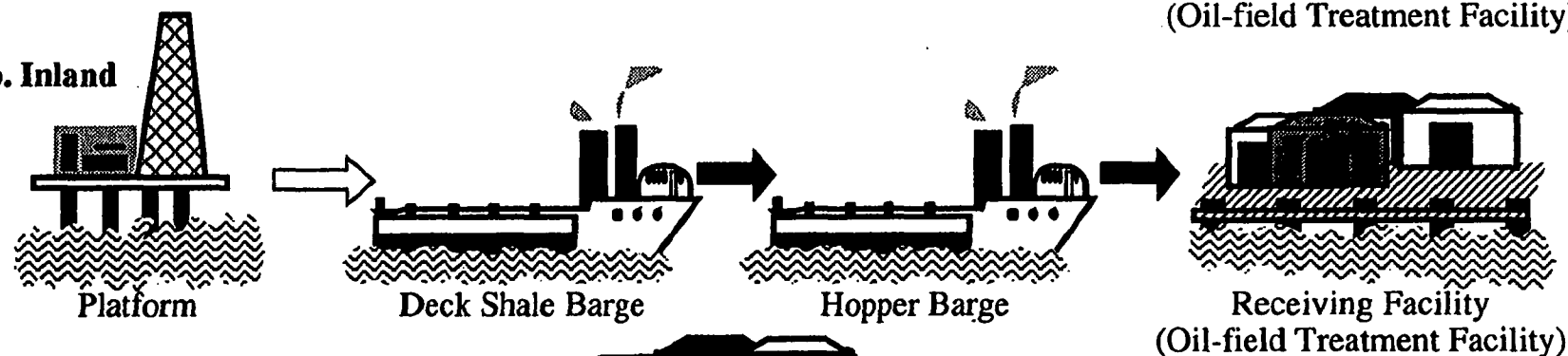
3-29

Affected Industry Parties

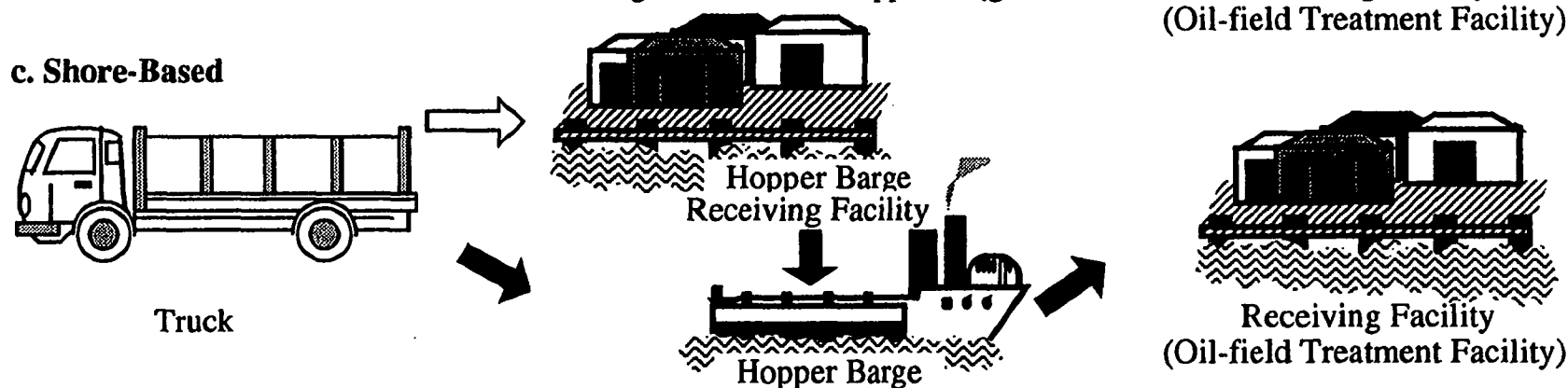
## a. Offshore



## b. Inland



## c. Shore-Based



**Key:** = Transfer covered by SPA

= Transfer not covered by SPA

Note: The hopper barges and the oil-field waste disposal facilities are the same for offshore and inland platforms and for onshore generated drilling muds and cuttings. The supply boats carrying drilling muds also carry garbage from offshore platforms.

from each of the three types of waste generators are consolidated. Finally, there is a discussion of the waste treatment receiving facility where the drilling muds and cuttings are disposed.

As an indication of the amount of muds and cuttings brought to shore, MMS estimates the following quantities: 1,595 barrels of mud and 386 barrels of cuttings per exploratory well drilled and 444 barrels of mud and 108 barrels of cuttings per development well drilled (MMS, 1993). While these estimates pertain to the Federal waters, over 95 percent of the offshore oil and gas activity is anticipated to continue to occur in Federal waters (Burroughs, 1993; Kimbrough, 1993; Lam, 1993; MMS, 1993).

### **3.5.3.1 Inland Oil and Gas Platforms**

Inland platforms typically off-load oil and gas exploration and production related drilling muds and cuttings waste to barges which then transport the material to transfer stations. Drilling muds and drill cuttings (also called shale) are handled together and are piped directly onto the transport barge by piping through a device known as a shale shaker screen. This transfer process is covered by NPDES Permits, and is not covered by SPA. However, the process is described here in order to provide a clearer understanding of the waste-handling procedures. Inland oil and gas platforms generally operate what is called a closed loop system whereby drilling fluids are reused within the system to reduce the amount of waste generated by the oil platform (Comeaux, 1993).

The shale shaker screen separates the waste material from reusable material. All waste drill cuttings and drilling muds then travel by pipe to the transport barge. This type of system alleviates the need for hoses and/or valves (Boudreaux, 1993; Hanby, 1993).

The transport barge is situated directly underneath the open-ended pipe where the drilling muds and cuttings simply free-fall into the open compartment. Barges are securely fastened to the platform to avoid excess movement of the barge during the transfer. Workers from both the platform and barge supervise the transfer activities which conform to written procedures usually developed by the company that owns the platform. Communication is maintained by two-way radio between the oil platform and the barge. Secured lighting is available on the oil platform to allow for 24-hour operations. Transfer of drilling muds and cuttings is generally not halted for any weather conditions, except for severe hurricane-type storms (Hanby, 1993; Boudreaux, 1993).

The type of barge used in the inland disposal of drill cuttings is known as a deck shale barge. These barges are not permitted to operate on the open seas and, therefore, only operate in the inland waterways. Generally, deck-shale barges have large, open compartments built above the level of the deck. The compartments range in size up to 80 feet long by 28 feet wide by 7 feet high. The overall size of the barge is typically 120 feet long by 30 feet wide and 7 feet high. The barge is typically divided into four compartments (Toups, 1993; Portier, 1993).

The overall size of the barge and open compartments means that spills are highly unlikely when the barge is directly underneath the platform. Consequently, there are generally no other safety precautions used in the transfer of the waste drilling muds and cuttings to deck shale barges. The consistency of the drill cuttings, once on-board the shale barge, is such that, when barge is filled to its maximum height as prescribed by standard procedures (i.e., somewhat below the top edge of the compartment), there is no danger, aside from the barge completely capsizing, of a spill to the waterway. Deck shale barges are typically not equipped with coverings for the

compartments. Because of the lack of elements (waves, weather, rough seas) on the inland waterways, the barges are free from routine dangers encountered on the open seas. As a result, inland deck shale barges typically do not carry emergency response equipment on board. Items such as booms, dip nets, or other equipment used in emergency response are not carried on-board (Boudreaux, 1993; Hanby, 1993). U.S. Coast Guard regulations (CFR 33 Parts 150 to 156 and CFR 46 Subchapter I and Subchapter T) require the operators of barges to have emergency procedures in place for notification of proper authorities in the event of a spill. These U.S. Coast Guard regulations require written documentation and record keeping of any spill occurrence as well as notification of proper authorities (Ruckstuhl, 1993).

Drilling muds and cuttings from inland oil and gas platforms are transported by deck shale barge to one of two locations: to a marine-based transfer station-hopper barge (described in Section 3.5.3.4); or directly to a treatment facility for non-hazardous waste. The decision as to where the material is transported is based on the proximity of the inland platform to the reception facility (Comeaux, 1993).

### **3.5.3.2 Offshore Oil and Gas Platforms**

Offshore oil and gas platforms use supply boats for transport drilling muds and cuttings to either a transfer station-hopper barge or to a supply base. (Note that they also carry packaged garbage to supply bases.) Supply boats receive the material to be disposed of in one of two manners: in previously filled, fully contained Department of Transportation (DOT) approved tanks; or by hose into below-deck storage tanks. The most prevalent procedure is the use of DOT approved tanks, which are commonly called "cuttings boxes." The transfer of cuttings boxes from the platform to the offshore supply boat is not covered under SPA. Cuttings boxes range in size from 5 to 25 barrel volumes (a barrel is equivalent to 42 U.S. gallons). Gross weight of the cuttings boxes, therefore, is roughly between 20 and 30 thousand pounds (Brazzel, 1993; and Ruckstuhl, 1993).

As on inland platforms, no effort is made to separate drilling muds from drill cuttings. However, at certain points in the drilling process, the "waste" from the operation is dominated by one or the other type of material, depending on factors such as depth of drilling and type of material being drilled. Thus, the overall viscosity of the composition of waste in each cuttings box can vary greatly among different wells (Ruckstuhl, 1993).

The cuttings boxes are generally made of reinforced, heavy aluminum material, are water-proof, and are equipped with locked and sealed hatches on top. The boxes are designed so that, even in the event that one of them falls into the water, the boxes will remain secure. Cuttings boxes are constructed with eyelets on the top of the outer frame for use with heavy-duty cranes. From the oil and gas platform, a crane transfers the boxes to the top deck of the supply boat, where they are bound and chained to preclude movement during transport. Oil and gas platforms are equipped with fixed lighting to assist nighttime operations. In contrast to inland waterway operations, offshore transfer operations are highly dependent upon weather conditions. No operations occur in moderate to heavy weather conditions (Brazzel, 1993; Ruckstuhl, 1993).

Supply boats typically have operations manuals with proper transfer, transport, and spill procedures detailed. Supply vessels are currently required to have emergency procedures well documented and available to all crew members in case of a spill. Some supply vessels are equipped with emergency spill response equipment and personnel are trained in the use of the

equipment. Other supply vessels' operation manuals prescribe the immediate notification of professional spill response authorities in the event of a spill occurrence. Supply vessel personnel are required to maintain records of any spill occurrence and submit all record keeping and documentation of spill events to the Coast Guard. Equipment, such as a boom or containment pans, are typically maintained on board the vessel to prevent any type of spill on-board the ship from reaching the waterway (O'Sullivan, 1993; Autin, 1993).

The second method of receiving drilling muds or cuttings from an offshore oil platform (also not covered by SPA) is through hoses operated by the platform to a below-deck storage tank on the supply vessel. The below-deck storage tanks vary in size and capacity from 1,700 to 30,000 gallons. Below-deck storage tanks are fully contained tanks below the main deck of the supply vessels. Once material enters the tanks, there is virtually no chance of spillage. The operations manual also details procedures for the transfer of drilling muds and cuttings into the below-deck storage tank. In this transfer operation, hoses are used in the connection between the platform and the vessel. Hoses may be supplied by either the platform or the vessel, and are regularly inspected and tested. Hose fittings are connected to pipes both on the platform and aboard the supply boat, and are clearly labelled, through the use of stenciling, as to the function of the pipe. Valves at the end of the pipes can be securely closed, and are regularly inspected by platform and supply boat personnel. At the end of transfer operations, hoses are blanked by pumping clean water through the hose. During the transfer operations, spill containment pans are used by both the platform and the vessel to contain any seepage from hose fittings (Autin, 1993).

Drill cuttings and drilling muds are then transported to one of two locations for off-loading: either a transfer station-hopper barge (the same transfer station as used by the inland platforms) or a supply base for oil company operations. Once deposited at either of these two locations, the supply vessel's responsibility for the material ends. Eventually, all waste drilling muds and cuttings deposited at oil company supply bases will end up in specially designated non-hazardous oilfield waste treatment facilities by land transport (O'Sullivan, 1993; Autin, 1993).

Transfer operations from supply boat to transfer station or supply base occur in exactly the same manner (only in reverse) as from offshore oil and gas platform to supply vessel, and are both covered by SPA. Cuttings boxes are transferred from supply vessel to transfer station or supply base using a heavy duty crane. Below deck storage tanks are off-loaded using hoses.

### **3.5.3.3 Shore-based Oil and Gas Operations**

Shore-based oil and gas operations (consisting of oil and gas wells, or pits) transport waste drilling muds and cuttings to transfer stations by truck. This waste conforms to the same standard of non-hazardous oilfield waste as offshore and inland oil and gas platforms. Drilling muds and cuttings can arrive from shore-based operations in one of two ways: by open dump truck; or fully enclosed vacuum trucks. In general, dump trucks off-load drilling muds and cuttings into holding pits located on transfer station property, whereas vacuum trucks off-load waste material directly into a transfer station-hopper barge (Ruckstuhl, 1993). The transfer from dump truck to holding pit is not covered by SPA since no transfer operation takes place over water. The transfer from the holding pit to the hopper barge, under the supervision of transfer station personnel, is covered by the SPA as is the transfer from vacuum truck directly to the awaiting hopper barge. In this situation, the transfer station is the waste source. The process of transfer from both forms of shore-based transport is described below.

Transfer stations are equipped with holding pits in the working areas of their property for the temporary receipt of shore-based operations waste. Dump trucks unload drilling muds and drill cuttings into the holding pits. Material free-falls into the submerged holding pits. Holding pits vary in size at each transfer station depending on the volume of wastes received. Dump trucks are cleaned of all waste through the use of high-pressure water hoses. Due to the size of the holding pits, a spill during the transfer operation is unlikely. Once inside the holding pit, the composition of the drilling muds and cuttings is such that a spill incident due to a storm is unlikely (Ruckstuhl, 1993). Because the holding pit is constructed in-ground, a good distance from the waterway, surrounded by concrete, and not over-filled, the chance for material to escape the holding pit and enter the waterway is virtually eliminated.

From shore-based oil and gas operations, non-hazardous oilfield waste conforming to the same standards may be transported by vacuum truck. This material is generally in a more liquified state which requires the use of an enclosed truck for transport. Vacuum trucks are equipped with sealed valves and hatches to preclude any spillage after wastes are loaded into the container. Vacuum trucks typically deliver material directly to the transfer station-hopper barges.

#### **3.5.3.4 Transfer Station-Hopper Barge**

Transfer stations receive drill cuttings and drilling muds from a variety of sources. Non-hazardous oilfield waste from offshore oil and gas platforms, inland oil and gas platforms, or shore-based oil and gas activities all consolidate waste disposal at transfer stations-hopper barges, but by different means of transport. No effort is made to separate the material delivered from any of the different sources (Ruckstuhl, 1993; Boudreaux, 1993). The process for reception of wastes from each of the different sources is described below.

Inland oil and gas platforms transfer waste drilling muds and cuttings by deck shale barges. Deck shale barges are fastened to a dock and connected to a larger receiving barge (that serves as a transfer station) by a platform adjoining the two barges. The platform serves as a barge dock point and as a type of containment device to preclude the spillage of any material into the waterway (Boudreaux, 1993).

The larger barges, known as a hopper barges, are typically 195 feet long, by 35 feet wide, by 12 feet high. These reception barges can accommodate up to two transport deck shale barges at a time. The hopper barges are not equipped with covering, but are securely fastened to the dock to reduce the chance of a spill due to a shift in material. The nature of drilling muds or cuttings is such that there is no risk of weather blowing the material over the edge of the barge (Boudreaux, 1993; Brazzel, 1993).

The transfer of drill cuttings from the deck shale barge to the hopper barge occurs in one of two ways: either by machinery operating a clam bucket or scoop bucket, or through hoses. When a crane or clam shell bucket is used in the vessel-to-vessel transfer, a platform is placed in between the barges. This platform serves as a type of containment device for any spilled material. All waste material collected on the containment platform after the transfer operation is dumped into the hopper barge (Brazzel, 1993; Ruckstuhl, 1993).

When hoses are used in the transfer operation, a submersible pump is used to pump spent drilling fluids from the deck shale barge to the hopper barge. The pump is placed in the deck shale barge and a hose is fed into the hopper barge. The hose is secured to the receiving barge (hopper

barge) by a "C" clamp. Material then free-falls from the open end of the hose into the hopper barge. Hoses are regularly inspected and meet approved standards. The spill containment platform is used as secondary containment for any spillage during the transfer (Brazzel, 1993; Ruckstuhl, 1993).

Fixed lighting is available at the hopper barge to facilitate 24 hour transfer operations. Weather conditions do not affect the ability to transfer drill cuttings from the deck shale barge to the hopper barge except in cases of hurricane-type storms (Ruckstuhl, 1993; Brazzel, 1993).

Transfer stations receive offshore platform waste in the form of cuttings boxes through the use of a heavy-duty crane. The crane holds the cuttings box over the hopper barge. While suspended over the barge, the hatch is opened to allow the material to free-fall into the hopper barge below. Cuttings boxes are rinsed clean with water from high-pressure water hoses. The run-off flows directly into the hopper barge. In some cases, the high-pressure water hose is necessary to break free some congealed material within the cuttings boxes. Clean cuttings boxes are returned to the supply vessel (Brazzel, 1993; Autin, 1993; O'Sullivan, 1993).

Transfer stations also receive drilling muds and cuttings from platforms from below-deck storage tanks. Hoses are used to make the transfer. The drilling muds and cuttings are pumped from below-deck storage tanks directly into a hopper barge. Pipes on the supply vessel are clearly labelled, and hoses are regularly inspected. Containment pans are used in the transfer operation on board the supply vessel to preclude spillage into the waterway (Brazzel, 1993; Ruckstuhl, 1993). Any contained material at the end of the operation is fed directly into the hopper barge. The hopper barge also has a platform spanning between the supply boat and the transfer station. This platform also serves as a type of containment device for the hopper barge. Once again, any wastes contained on the platform at the end of the transfer operation are fed directly into the hopper barge.

As described above, transfer stations receive shore-based oil and gas operations waste in holding pits from dump trucks and directly into the hopper barge from vacuum trucks. The process of transfer from the holding pits to the hopper barges is done strictly with transfer station personnel and equipment. From these holding pits, transfer station personnel move the drilling muds and cuttings to the hopper barge when the holding pit reaches the specified fill level. A clam shell bucket is used to transfer the material to the hopper barge (Ruckstuhl, 1993). The holding pit is situated such that during this transfer process, no material passes over the water.

Transfer stations are equipped with emergency response equipment in the event of an oil spill. Examples of the types of equipment that transfer stations may maintain for the initial response to a spill incident to comply with U.S. Coast Guard regulations are a supply of boom, chemical treatment agents, and/or a small boat. All transfer station personnel are trained in the use of this equipment. Regulations also require transfer stations to maintain documentation and record keeping for all spill occurrences and that proper authorities be notified by telephone at the time of the event and in writing within a certain time period of the event (Ruckstuhl, 1993; O'Sullivan, 1993).

#### **3.5.3.5 Reception/Treatment Facility**

Hopper barges, once filled to the specified fill level (again, not to the top edge of the barge) are towed by tug to a treatment facility where they are unloaded. Deck shale barges may

occasionally go directly from inland oil and gas platforms to treatment facilities depending on the proximity of the two alternatives. Barges (the same process is used for either type of barge) are typically unloaded by crane or clam shell bucket scooping out the spent drilling muds and cuttings. During this transfer operation, the barge is securely fastened to the dock to prevent shifting in the material. Containment pans are used to receive any overflow that might occur in the transfer operation and to prevent any material from spilling into the waterway. Any overflow waste contained on the spill platform at the end of the transfer operation is emptied directly into the treatment facility's tank (Ruckstuhl, 1993).

Reception/treatment facilities may also remove drilling muds and cuttings from barges (either hopper barges or deck shale barge) through the use of hoses. A submersible pump-type operation, similar to that used in the barge-to-barge transfer operation, is used at the treatment facility. The submersible pump is used to pump drilling fluids from barge to treatment facility tank. Facility personnel use "C" clamps to fasten hoses to receiving tanks. Spill containment pans are used to prevent any spillage to the waterway. Any overflow material contained on the spill platform at the conclusion of the transfer operation is fed directly into the waiting tank. Hoses are regularly inspected and tested (Ruckstuhl, 1993).

Drilling muds and drill cuttings are chemically treated to separate out oily waste from solid soil or shale material. Eventually, all "waste" deposits are removed leaving a solid, inert soil-type material conforming to "reusable" status. This inert material is stored at the treatment facilities while awaiting alternative use (Brazzel, 1993).

#### **3.5.4 Actions Needed to Achieve Compliance**

Exhibit 3-15 summarizes the current level of compliance of the industry segments dealing with drilling muds and cuttings affected by the proposed SPA regulation. As shown in the exhibit, it is estimated that the owners/operators of the receiving facilities for drilling muds and cuttings will need to place a placard at their facilities. Otherwise, they are currently in compliance with the proposed regulation. The owners/operators of the barges and the offshore supply boats will need to develop an O&M manual, place a placard on each vessel, and undertake all the activities related to the waste deposit records in order to be in compliance with the proposed regulations. In addition, about 25 percent of the owners/operators of the offshore supply vessels will need to purchase some equipment, such as a harness for use with a crane, to prevent waste spills.

# Current Level Of Compliance: Drilling Muds And Cuttings

## Shoreside Facilities:

Segment \ Provision of Proposed Reg.	Performance Standard 237.4(a)	Fixed Lighting 237.4(b)	Waste Deposit Cleanup and Notification 237.4(c)			Waste Deposit Records 237.4(d)	O&M Manuals 237.4(e)
			Equipment	Cleanups	Placard		
Oil Field Treatment Facilities	100%	100%	100%	100%	0%	100%	100% *

## Vessels:

Segment \ Provision of Proposed Reg.	Performance Standard 237.5(a)		O&M Manuals 237.5(b)	Waste Deposit Cleanup and Notification 237.5(c)			Waste Deposit Records 237.5(d)		
	Garbage Deposit Prevention	Leachate Control: Valve Seals		Equipment	Cleanups & O&M	Placard	Develop Form	Record Deposits	Maintain Records
OSVs Handling (Garbage and) Drilling Muds and Cuttings	75%	100% **	0%	75%	100%	0%	0%	0%	0%
Deck Shale & Hopper Barges	100%	100% **	0%	100%	100%	0%	0%	0%	0%

\* Facilities have O&M manuals, but they may not be fully in compliance with the proposed regulation

\*\* Leachate control does not apply; estimate pertains to labeling and sealing values

Source: Tetra Tech, 1993





## 4.0 COSTS OF COMPLIANCE

This chapter discusses the estimated costs of compliance with the proposed SPA regulation (40 CFR §237) and the methods by which the costs were estimated. Section 4.1 provides the general approach used in estimating the costs. Section 4.2 describes the development of unit costs, including equipment costs and the general assumptions used in estimating time requirements for performing the tasks necessary to comply with the rule. Section 4.3 presents the compliance costs by affected industry segment and proposed rule provision and briefly discusses the major cost elements. The detailed costing matrix, which shows the data elements for each compliance activity and industry segment, is provided as Appendix A to this report.

### 4.1 Approach to Compliance Cost Estimation

The general equation used to estimate costs is:

$$\frac{\text{Number of Affected Parties}}{\times (1 - \% \text{ Current Compliance})} \times \frac{\text{Unit Cost of Compliance}}{= \text{Compliance Cost}}$$

This equation is applied to each element of the proposed rule for each affected industry segment. Therefore, the nature of the activities and cost components of each activity (i.e., labor hours to develop materials or procedures, equipment purchases, additional labor hours to follow new procedures) have been estimated for each affected segment. The compliance cost elements for each activity and segment can then be added to obtain total cost estimates for each provision of the standard, for each industry segment, or for a single activity across any subset of segments.

Each activity required by the proposed standard which might result in a cost to the affected parties was identified in Chapter 2. The industry segments affected by the proposed rule were identified and profiled in Chapter 3, both in terms of the number and nature of the entities and in terms of current practices and how these practices correspond to the proposed rule. The estimates of the percentage of facilities and vessels covered by SPA which are currently in compliance with the proposed rule are also provided in Chapter 3. The final type of information needed to develop the compliance costs for a typical facility or vessel currently not in compliance. The following section describes the development of the unit cost estimates.

Exhibit 4-1 provides one sample page of the cost spreadsheets. This example shows the cost development for the industry segment Receiving Facilities for Packaged Garbage from Offshore Oil and Gas Platforms for compliance with subparagraph 237.4(a), the performance standard for waste handling practices.

For this sample segment, any facility not associated with a large oil and gas, exploration, or supply company is estimated to be part of a small company. The number of small and large companies and the number of facilities belonging to each were derived from the U.S. Army Corps of Engineers' Port Series reports. In other segments, the large and small company definitions were based on the number of facilities owned by a company (drilling mud treatment facilities) or the number of vessels owned and/or operated by the company. For barges, it was estimated that ten or more barges constituted a large company. A company operating offshore

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1200 Pennsylvania Avenue NW  
Washington DC 20460

# Exhibit 4-1

## Sample of Cost Estimation Model

### SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

#### SHORESIDE FACILITIES

Segment:

#### RECEIVING FACILITIES FOR PACKAGED GARBAGE FROM OIL & GAS PLATFORMS

Regulatory Requirement:		<u>237.4(a) Performance Standard</u>	
Action Required:		<u>Waste Containment Structures &amp; Equipment Purchase, Deployment &amp; Maintenance</u>	
Frequency of Cost:		<u>One-time Cost</u>	<u>Annual Cost</u>
		Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>
Small Company Definition: Independent Operation (Not Oil Company)		Eq. Cost: \$3,000	Maint. Cost: \$0
		<u>Labor Costs</u>	<u>Labor Costs</u>
		Hourly Rate: \$22	Hourly Rate: \$18
Total Companies: 79		Hrs—Small: 1	Hrs—Small: 53
Small Companies: 51		Hrs—Large: 1	Hrs—Large: 53
Total Sites: 144		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>
Small Co. Sites: 61		Small Co.: \$3,022	Small Co.: \$957
		Large Co.: \$3,022	Large Co.: \$957
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$30.54		Small Cos.: 75%	Small Cos.: 75%
Supervisor: \$21.60		Large Cos.: 10%	Large Cos.: 10%
Skilled Labor: \$25.07			
Unskilled Labor: \$18.22			
<u>Total Cost</u>		<u>Total Cost</u>	<u>Total Cost</u>
Average transactions per facility per year		Small Cos.: \$138,238	Small Cos.: \$43,768
Small company: 210		Large Cos.: \$25,079	Large Cos.: \$7,940
Large company: 210		All Affected Cos.: \$163,318	All Affected Cos.: \$51,708

supply vessels was defined as large if it owned and/or operated more than three vessels, which is approximately equivalent to the standard definition of a small company having fewer than 20 employees.

Some of the segments included in this analysis include government-operated facilities or vessels. In this situation, these are State and local government entities. These operations are identified in a separate category for government entities. Where government entities are involved, the total number of companies always excludes the government operations, and an extra line for number of government entities is included. The total number of sites or vessels, however, includes the government-operated sites or vessels.

This approach allowed the costs to small and large businesses to be identified separately and for the different baseline compliance rates observed in small and large entities to be quantified.

Four categories of labor rates were estimated for each segment. These rates are fully loaded, including all benefits in addition to straight wage or salary. Where clerical or secretarial rates were needed, the unskilled labor rate was used as an approximation. The sources of these estimates will be explained for each segment.

The average transactions per facility per year represent the number of loadings or unloadings of municipal or commercial waste. For vessels, this number represents voyages, or round trips from the port to the destination(s) and returning to the port. These estimates are average transactions per facility or vessel, but the actual range among single facilities may vary widely.

Each of the activities required by the proposed standard has been categorized as a one-time or annual recurring cost. The costs incurred during the first year the standard is in force would include the one-time costs and the annual costs. Ensuing years would include only the annual costs. The initial costs have not been annualized (or amortized) because the majority of these costs are for labor hours and the equipment (capital) costs are generally small enough to be expensed.

The cost basis depends on the nature of the activity. Signs which must be posted at each facility or on each vessel are calculated on a per-site or a per-vessel basis. Requirements, such as recording waste deposits or cleaning up waste deposits, result in costs based on the number of transactions or loadings. Other costs, such as the development of operation and maintenance (O&M) manuals, are calculated on a per-company basis because a company can develop a single manual and distribute it to all of its sites or vessels.

The unit cost shown in the cost spreadsheet is the equipment cost plus the hourly rate times the number of hours. If the cost basis is number of sites, then the unit cost shown is cost per site. Similarly, if the cost basis is number of companies, then the unit cost will be cost per company, and so on. The percent affected is derived from the percent currently in compliance, as provided in Chapter 3. The total cost per activity is then calculated using the equation at the beginning of this section: unit cost times percent affected times the number of sites or companies, depending on the cost basis. The equipment costs, hourly labor rate, and hours of labor required are explained for each segment and provision in the discussion below.

## **4.2 Unit Cost Development**

### **4.2.1 Estimates and Assumptions Applicable to All Affected Segments**

The following assumptions and estimates apply to every situation where the relevant provision of the standard will require action on the part of an affected party. These elements are estimated regardless of the segment in which the situation arises.

- Any purchase of materials or equipment requires 0.5 hours of supervisor's time to identify and obtain the equipment in addition to the direct cost of the equipment or materials. This estimate was based on experience with similar regulations.
- Every site covered by the proposed standard will be required to post a placard for notification of waste deposits with telephone numbers; no facilities currently have the necessary placards in place. This effort is estimated to require 2 hours of supervisor's time to obtain and post the placard. One placard is required for each facility. The cost of the placard is estimated at \$17. This was based on a quote from a commercial vendor for typesetting, printing, and laminating the sign shown in the Technical Guidance Document.
- Material costs for O&M manuals have been estimated at \$5 per vessel or per facility, which includes a notebook and 30 pages of reproduction.
- Each company or government entity will need to develop its own waste deposit record form. It is estimated that this will require 1 hour of management time. Each time a waste deposit occurs, a record will need to be filled out. It is estimated that this will require 15 minutes for each deposit. The frequency of occurrences has been estimated for each segment. The cost of maintaining the waste deposit records would include the file storage space and file materials, as well as the time required for filing the documents. Because the number of deposits is small for those sectors not already keeping records, the cost for maintaining the files has generally been estimated to be negligible.

The following sections describe the more detailed estimates and assumptions involved in the calculation of the costs of compliance. These explanations are organized by industry segment and provision of the standard.

#### **4.2.2 Shoreside Facilities**

The proposed regulation contains five major provisions in §237.4 regarding shoreside facilities. These provisions, and the cost components of them, are:

- 237.4(a) Performance Standard. This consists of having: 1) the equipment necessary to prevent or minimize waste deposits; and 2) the time required to follow proper procedures and use the equipment.

- 237.4(b) Fixed Lighting. Facilities need to have sufficient lighting for waste handling.
- 237.4(c) Waste Deposit Cleanup and Notification. Facilities need to: 1) have necessary cleanup equipment on hand; 2) clean up waste deposits when they occur; and 3) post the telephone number of the oversight authority to whom spills must be reported on a placard.
- 237.4(d) Waste Deposit Records. Facilities must have records of their waste deposits, which requires: 1) developing a form for recording waste deposits; 2) filling out a form for each deposit; and 3) maintaining the records of waste deposits.
- 237.4(e) O&M Manuals. Each facility must have an O&M manual which describes waste handling procedures and how the procedures address this regulation.

Each of the shoreside facilities covered by SPA already has fixed lighting in place or operates only during daylight hours. Therefore, no costs have been estimated for subparagraph 237.4(b), Fixed Lighting.

Other requirements with which a segment is currently 100 percent in compliance, as identified in Chapter 3, will generally not be discussed in the following sections because there are no associated costs.

#### **Uncontainerized Municipal Wastes: Marine Transfer Stations**

The labor rates for the marine transfer stations (MTS) were obtained directly from the New York City Department of Sanitation (NYC DOS).<sup>1</sup> An overhead rate of 28.2 percent<sup>2</sup> was applied to the direct wages and salaries to arrive at the following labor rates:

- Management: \$34.43
- Supervisor: \$27.90
- Skilled Labor: \$37.60
- Unskilled Labor: \$18.49

237.4(c). Each of the eight MTSs will be required to post the telephone numbers for reporting waste deposits at the standard cost of \$17, described in Section 4.2.1.

237.4(d). It was estimated that only one waste deposit record form will be developed for all NYC DOS operations and that this will be performed centrally and distributed. While no cost has been estimated for the distribution or materials (because this can be done along with regular communications), it is estimated that an additional hour will be needed to develop accompanying instructions.

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<sup>1</sup> Wage rates are for the NYC DOS personnel and were provided by Martell (1993). The management rate used is the District Superintendent, skilled labor is Crane Operator, and unskilled labor is Sanitation Worker.

<sup>2</sup> The overhead rate of 28.2 percent is the average overhead rate for state and local government employees (Shelly, 1993).

Based on figures provided by the NYC DOS, an average of 885 barges are loaded at each facility per year. On average, each MTS loads 2.5 barges per day. It was estimated, however, that waste deposit records would be filled out either each time a barge is fully loaded or at the end of a shift, likely to be three times each day for 15 minutes, or total of 234 hours per year per MTS.

**237.4(e).** The NYC DOS already has O&M manuals for the MTSs, as well as the other segments of the department. While these manuals are expected to be in full compliance with the proposed regulation, they will need to be reviewed to ensure compliance. It was estimated that one review, which will cover the manual for all eight MTSs, will be performed by the legal office and will require 4 hours. While the legal function will be involved in this review, it will not require the participation of an attorney.

#### **Uncontainerized Municipal Wastes: Receiving Facility (Fresh Kills)**

Fresh Kills receives approximately 4,680 barges of uncontainerized garbage each year. Labor rates are the same as those used for the NYC DOS marine transfer stations, described above.

**237.4(d).** The waste deposit record used at Fresh Kills can be the same as that developed for the MTSs. The development cost for Fresh Kills is estimated at one-half hour for the facility manager to ensure that the form is obtained. It is estimated that each barge unloading will require filling out a waste deposit form, so the annual time requirement is estimated to be 15 minutes each for 4,680 unloadings, or 1,170 hours.

**237.4(e).** Similar to the MTSs, it is estimated that the existing O&M manual will need to be reviewed to ensure compliance with the proposed standard. This is expected to require 4 hours of time by the legal office, which is estimated to be equivalent to the management labor rate.

#### **Packaged Garbage: Receiving Facilities for Garbage from Oil & Gas Platforms**

The labor rates for all of the oil and gas industry-related segments are based on rates developed in a study of employment and earnings in the offshore oil and gas industry (Centaur Associates, 1986). The resulting labor rates, adjusted for inflation and overhead,<sup>3</sup> are:

- Management: \$30.54
- Supervisor: \$21.60
- Skilled Labor: \$25.07
- Unskilled Labor: \$18.22

It was estimated that offshore supply vessels (OSVs) make an average of two voyages per week and that approximately half of these trips involve picking up garbage from the platforms. Furthermore, it is estimated that all facilities service the same number of voyages. The estimated

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<sup>3</sup> The inflation adjustment is based on hourly rates for the mining (oil and gas) industry, averages for 1985 and 1992, from the Survey of Current Business, Hourly and Weekly Earnings, not seasonally adjusted, U.S. Department of Commerce, Bureau of Economic Analysis, page S-12. The overhead adjustment of 24.3 percent is the average overhead rate for private sector employees (Shelly, 1993).

number of facilities is based on the offshore oil and gas supply bases listed in the Army Corps of Engineers' Port Series reports (U.S. Army Corps of Engineers, 1981-1993). Because the Port Series reports also list the company names of the owners and operators of the facilities, a large company facility was defined as any facility owned or operated by a recognized major oil and/or gas company, a major drilling and/or exploration company, or a major offshore supply company.

**237.4(a).** Each facility which does not currently have adequate means for transferring garbage from the OSVs to the dock was estimated to require the purchase of a wire sling for use with a crane, which would require an estimated 1 hour of the facility supervisor's time. The purchase price of the wire sling was estimated at \$3,000.<sup>4</sup> It was estimated that using the wire sling for lifting loads (or any similar and similarly effective method) would require an additional 15 minutes each time the vessel was unloaded, resulting in an additional 53 hours per year of labor.

**237.4(c).** Each facility will need to have a boat hook and a dip net to retrieve waste deposited in the water during garbage transfer from the vessel to the dock. The estimated cost of this equipment is \$50<sup>5</sup> and one-half hour of supervisor's time to obtain the equipment and, because this type of equipment wears out quickly, this is considered an annual cost. Further, this equipment is generally designed for recreational use, not demanding commercial conditions. However, there is no evidence, given current practices, that significant amounts of packaged garbage is deposited into coastal waters, therefore, the cost for cleanup was estimated at zero. Maintenance of the equipment is estimated to be negligible. Every facility must, however, post the telephone number for reporting deposits, which is assessed at the standard equipment and labor costs.

**237.4(d).** Each facility is expected to develop a form for recording waste deposits. This is estimated to require 1 hour of the manager's time. However, since no waste deposits are anticipated, no time has been assigned for filling out the forms. Consequently, no record maintenance charges have been estimated.

**237.4(e).** Development of an O&M manual for waste handling practices at a large company facility, addressing the requirements of the proposed SPA regulation, are estimated to require 16 hours of manager's time, 8 hours of supervisor's time, and 4 hours of clerical time. The weighted average cost of the required labor time is estimated as equivalent to 28 hours of supervisor's time. OSV supply bases which need to develop O&M manuals for waste handling are estimated to require the standard equivalent of 28 hours of supervisor's time. For small company facilities, the estimated time required was doubled because they would have less ability to draw on information and other resources for guidance in developing the manuals. Few facilities already have such manuals. The percentage of facilities which need to develop these manuals is estimated at 90 percent for small company facilities and 70 percent for large company facilities.

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<sup>4</sup> This is the lower end of a quoted range for crane wire slings (Erwin, 1993). The lower quote was selected since the more costly wire slings are for much heavier applications.

<sup>5</sup> Based on a quote from a marine supply company.



### **Packaged Garbage: Receiving Facilities for Garbage from Vessels Anchored Offshore**

There are three small companies which operate transfer services for packaged garbage from vessels anchored offshore, and thus would be responsible for ensuring compliance with the proposed rule. The labor rates for these companies, all located in Alaska, are based on Bureau of Labor Statistics data specific to refuse systems (SIC 4953) in the State of Alaska (BLS, 1993).<sup>6</sup> The resulting rates are:

- Management: \$48.05
- Supervisor: \$38.45
- Skilled Labor: \$34.61
- Unskilled Labor: \$25.63

The total number of vessels serviced by these companies, described in Chapter 3, was divided by three to obtain the average number of transfers per facility.

**237.4(c).** Because there are no known instances of significant garbage deposits related to this segment, no costs are predicted for the purchase of equipment or cleanup of deposits. Each site, however, is required to post the telephone number for reporting deposits, which has been estimated to cost \$17 for the placard and 2 hours of the supervisor's time.

**237.4(d).** Each of the facilities will need to develop a form for recording waste deposits, which will require an estimated 1 hour of manager's time. However, since no deposits are expected, the costs for filling out and maintaining the records are estimated to be zero.

**237.4(e).** Each facility will need to develop an O&M manual covering waste handling operations. This activity is estimated to require approximately 16 hours of the manager's time for each facility, because the operations are relatively straightforward.

### **Packaged Garbage: Sources of Garbage from Islands**

There are thirteen sites on Georges Island and Fire Island where garbage is picked up. The operating companies were all estimated to be small, and the split between government and private landings on Fire Island was estimated to be equal based on available information.

The labor rates used for island facilities are averages for refuse systems operations in Massachusetts and New York. The method used to estimate these rates are the same as those used for the receiving facilities for packaged garbage from vessels anchored offshore. These rates are:

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<sup>6</sup> The basic labor rate provided in this document was then weighted to obtain the estimated rates for skilled labor, supervisors, and management by factors of 1.35, 1.50, and 1.875, respectively. These weighting factors are based on average differences between wage rates for those segments where all four levels were known (e.g., NYC DOS and the oil and gas industry). The resulting rates were then multiplied by 1.243 to take into account payroll benefits (Shelly, 1993).

- Management: \$45.16
- Supervisor: \$36.14
- Skilled Labor: \$32.52
- Unskilled Labor: \$24.09

**237.4(c).** In the event that a waste deposit does occur, these facilities need to have boat hooks and dip nets on hand. While most already do, it is estimated that three of the thirteen sites will need to make these purchases. The unit cost for this equipment is \$50 per facility per year. However, since minimal deposits are anticipated, the cost for cleanups is estimated at zero. The cost for maintenance of the equipment is estimated to be negligible. Each facility will, however, need to post the telephone numbers for notification of waste deposits at the standard cost of \$17 plus 2 hours of supervisor's time.

**237.4(d).** Each facility will need to develop a form for recording waste deposits, which will require an estimated 1 hour of manager's time. However, since no deposits are expected, zero cost was estimated for recording deposits and maintaining waste deposit records.

**237.4(e).** Each facility will be required to develop an O&M manual for handling waste. Because these manuals should be relatively simple, this is estimated to require 16 hours of the manager's time at each facility.

#### **Package Garbage: Receiving Facilities for Garbage from Islands**

The two facilities that receive packaged garbage from islands are in Boston and on Long Island. The Boston facility is government owned and operated, while the Long Island facility is a small private company. The Boston facility, which receives waste from Georges Island, receives approximately 364 loads of waste per year, based on two trips per day for six months. The Long Island facility, consisting of two small companies, receives an estimated 560 loads per year from Fire Island. The labor rates estimated for this segment are the same as those used for the islands segment.

**237.4(c).** Because no significant deposits have occurred or are expected, and because the two facilities already have the equipment, no costs will be incurred for purchasing equipment necessary to effect cleanups or to maintain such equipment or to clean up deposits. However, both facilities will be required to post the telephone numbers for reporting waste deposits.

**237.4(d).** Each facility will need to develop a form for recording waste deposits. This is estimated to require 1 hour of manager's time at each facility. Since no waste deposits are expected to occur, no costs are expected to be incurred for filling out the waste deposit records or maintaining the waste deposit records on file.

**237.4(e).** Each facility will need to develop an O&M manual for handling wastes. This is estimated to require 16 hours of the manager's time at each facility.

#### **Sewage Sludge: Sources (Wastewater Treatment Facilities)**

All of the wastewater treatment plants which ship sludge by barge are government facilities. Based on an estimate of two loads per barge per day (as described in the discussion of sewage sludge transport vessels in Section 4.2.3), each facility loads an average of 1,356 barges per year.

The labor rates used for these facilities were obtained from the NYC DOS and are the same as those for the MTSs.<sup>7</sup>

**237.4(c).** These facilities have equipment on hand to allow cleanup of spills to the technologically feasible limit. No additional equipment or efforts are required to clean up any spills which might occur. However, each facility will be required to post on placards the telephone numbers for reporting spills.

**237.4(d).** All but one of the facilities already has in use a form for recording waste deposits. The remaining facility will need to develop a form for recording waste deposits. This is estimated to require the standard level of effort as discussed in the general assumptions above. That same facility will also need to record waste deposits and maintain the records thereof. Spills are estimated to occur in 1 percent of loadings and the recording of the deposit is estimated to require 15 minutes for each event.

**237.4(e).** Each facility has an O&M manual addressing waste handling procedures. However, each facility will need to review its manual to ensure compliance with the proposed standard. The review is estimated to require 4 hours of the manager's time at each facility.

#### **Sewage Sludge: Receiving Facilities (Sludge Dewatering Plants)**

There are a total of six sewage sludge receiving facilities, two of which are government operated. The remaining four sites are operated by four separate companies, each of which is estimated to be large, based on the volume of waste handled from the sewage sludge sources. Each site is estimated to receive an average of 1,582 loads per year. Labor rates for these facilities were estimated to be the same as those for the sewage sludge sources.

**237.4(c).** These facilities have equipment on hand to allow cleanup of spills to the technologically feasible limit. No additional equipment or efforts are required to clean up any spills which might occur. However, each facility will be required to post on placards the telephone numbers for reporting spills.

**237.4(d).** Each of these facilities will need to develop a form for recording waste deposits. This is estimated to require 1 hour of manager's time at each facility. Each facility will also need to record waste deposits. This effort is estimated to be required for 1 percent of shipments and require 15 minutes for each waste deposit. The cost for maintaining the records is estimated to be 1 hour of supervisor's time per year.

**237.4(e).** Each facility has an O&M manual addressing waste handling procedures. However, each facility will need to review its manual to ensure compliance with the proposed standard. The review is estimated to require 4 hours of the manager's time at each facility.

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<sup>7</sup> Although not all of these facilities are located in New York, it was estimated that labor rates are similar.

## **Drilling Muds: Receiving Facilities (Oil Field Treatment Facilities)**

Based on list of approved drilling mud treatment facilities received from the States of Louisiana and Texas, there are a total of 47 facilities in this segment, owned by 26 companies. A small company was defined as one which operates only one or two facilities, so 20 of the 26 companies are small and they operate 22 of the 47 facilities. The estimated labor rates for this segment were estimated to be the same as those for the other industry segments related to offshore oil and gas operations. The average number of loads received by each facility are based on the number of hopper barge loads, as described below.

**237.4(c).** These facilities have equipment on hand to allow cleanup of spills to the technologically feasible limit. No additional equipment or efforts are required to clean up any spills which might occur. However, each facility will be required to post on placards the telephone numbers for reporting spills.

**237.4(d).** Each of these facilities already has in place and in use a form for recording waste deposits. Therefore, no additional efforts or costs will be required.

**237.4(e).** Each facility has an O&M manual addressing waste handling procedures in order to comply with the requirements for oil and other hazardous materials. However, each facility will need to review its manual to ensure compliance with the proposed standard. Because these facilities tend to have good preexisting waste handling procedures, the review is estimated to require only 2 hours of the manager's time at each facility.

### **4.2.3 Waste Transport Vessels**

The proposed regulation contains four major provisions in §237.5 regarding waste transport vessels. These provisions, and the cost components of them, are:

- 237.5(a)**      **Performance Standard.** This consists of having: 1) the equipment necessary to prevent or minimize waste deposits; 2) leachate containment and collection system, where applicable; 3) the time required to follow proper procedures and use the equipment for leachate containment; and 4) labels and seals for waste ports and valves.
- 237.5(b)**      **O&M Manuals.** Each vessel must have an O&M manual which describes waste handling procedures and the how the procedures address this regulation.
- 237.5(c)**      **Waste Deposit Cleanup and Notification.** Vessels need to: 1) have necessary cleanup equipment on hand; 2) clean up waste deposits when they occur; and 3) post the telephone number of the oversight authority to whom spills must be reported on a placard on the vessel.
- 237.5(d)**      **Waste Deposit Records.** Vessels must record their waste deposits, which requires: 1) developing a form for recording waste deposits; 2) filling out a form for each deposit; and 3) maintaining the records of waste deposits.

Requirements for tracking systems will not come into play except as the result of repeated noncompliance with the other provisions of the proposed standard. Therefore, no costs have been estimated for the tracking systems provision of SPA.

Other requirements with which a segment is currently estimated to be 100 percent in compliance, as identified in Chapter 3, will generally not be discussed in this section because there are no anticipated costs of compliance.

#### **Uncontainerized Municipal Wastes: Barges**

All of the barges used for transporting uncontainerized municipal wastes in New York City are owned by the NYC DEP, therefore, no size distinction for companies is necessary. The base labor rates for this segment were obtained directly from the NYC DEP,<sup>8</sup> and were increased by 28.2 percent to estimate the fully loaded labor rates. The resulting labor rates are:

- Management: \$36.61
- Supervisor: \$29.90
- Skilled Labor: \$27.90
- Unskilled Labor: \$21.91

The approximate total number of barge loads transported annually was also obtained from the NYC DOS, as explained in Chapter 3.

**237.5(b).** The NYC DOS will need to review its operations manual for garbage barges to ensure compliance with the proposed rule, which is estimated to require 4 hours of time by the legal office, which is comparable to the manager's labor rate. In addition, a cost of \$5 per vessel has been estimated for reproduction and distribution of the manual to all vessels.

**237.5(c).** All waste deposits are cleaned up currently to the extent feasible, and the equipment necessary for cleanups is on hand. However, each vessel will need to post a placard with notification procedures and the telephone numbers of the oversight authority to notify in the case of a waste deposit. This is estimated to cost \$17 plus 2 hours of supervisor's time for each vessel. These costs might be reduced, however, if a bulk purchase of placards was made centrally and distributed.

**237.5(d).** The waste deposit record form to be developed by the NYC DOS (shown in the costs for the MTSs) will also be adequate for vessels, therefore, no additional cost for developing a form has been estimated. However, the proposed rule will require the form to be filled out for each voyage, so an additional 15 minutes per load has been estimated for recording deposits by the supervisor. The maintenance of the records is considered to require insignificant marginal efforts.

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<sup>8</sup> Wage rates are for the Marine Division personnel and were provided by the NYC Department of Environmental Protection (Joseph, 1993). The NYC DEP positions used for the four levels are Manager Level II, Captain of Sludge Vessel, Chief Marine Engineer, and Mariner.

## **Drilling Muds and Packaged Garbage: Supply Boats (OSVs) Transporting Muds and Garbage From Offshore Oil and Gas Platforms**

The numbers of OSV companies and vessels were determined from records maintained in the U.S. Coast Guard Marine Safety Information System (USCG, 1993). Because the average crew size of an OSV is nine, a company with only one or two vessels was considered to be small, approximating the standard definition of fewer than 20 employees for a small company. It was estimated that the average vessel makes two voyages per week, or about 100 voyages per year. Based on the estimate that 75 percent of vessels were currently in compliance, it was estimated that the remaining 25 percent of vessels are among those owned by small companies, constituting approximately 30 percent of the small company vessels.

The labor rates used for this segment are based on a study of the offshore oil and gas industry (Centaur Associates, 1986). After adjusting for inflation, as explained above for the receiving facilities for packaged garbage from oil and gas platforms, the resulting labor rate estimates are:

- Management: \$37.82
- Supervisor: \$37.22
- Skilled Labor: \$28.76
- Unskilled Labor: \$16.41

**237.5(a).** The vessels not currently in compliance with the performance standard are expected to purchase tarps to cover loads of garbage during transport. The cost of a tarp is estimated at \$45.<sup>9</sup> Because of the relatively short life of tarps, this was treated as an annual cost. In addition, it was estimated that using the tarps would require one-half hour of additional time for each voyage, or 50 hours per year per vessel. Leachate containment and collection provisions are not applicable to this segment. This segment is estimated to be 100 percent in compliance with the provision on waste ports and valves associated with the transport of drilling muds and cuttings.

**237.5(b).** Each company operating OSVs will need to develop an O&M manual for handling wastes. It is estimated that development of the manual will require 2 days of management time, 1 day of supervisory time, and 4 hours of clerical time. Using a weighted cost, this is equivalent to the cost of 28 hours of supervisory time. In addition, a cost of \$5 for materials (notebook and photocopying) was included.

**237.5(c).** Those vessels not currently in compliance are expected to purchase a boat hook and a dip net for recovering waste deposits at a cost of \$50 plus one-half hour of supervisor's time to acquire the equipment. It is estimated that accidental waste releases occur in 1 percent of voyages (or once per year) and that deposits can be cleaned up by skilled labor personnel in one-half hour. In addition, each vessel will need to obtain and post a placard with telephone numbers for reporting waste deposits, at the standard cost.

**237.5(d).** Each company operating OSVs will need to develop a waste deposit record form. It was estimated that this will require 1 hour of management time per company. Filling out the

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<sup>9</sup> Based on a quote from a marine supply company.

form is estimated to require 15 minutes for each waste deposit, which was applied only to the estimated 30 percent of small company vessels not currently in compliance.

#### **Packaged Garbage: Vessels Transporting Garbage from Inland Platforms and Rigs**

The vessels which service inland oil and gas platforms were identified from the U.S. Coast Guard database of SPA-permitted vessels (Tetra Tech, 1993). Small companies in this segment were defined as those which operate fewer than ten vessels. It was estimated that the average vessel performing this service makes three voyages per week, or approximately 150 voyages per year. The labor rates used for this segment are the same as those described above for OSVs.

**237.5(b).** Each company operating vessels in this segment will need to develop an O&M manual and provide copies to each vessel. The unit costs for this provision were estimated to be the same as those for the OSVs described above.

**237.5(c).** Those vessels which are not adequately equipped will need to purchase boat hooks and dip nets, estimated at \$50 per vessel. One-half hour of supervisor's time is estimated to obtain the equipment for each vessel. It is estimated that one-half hour of skilled labor will be required for the estimated one cleanup per vessel per year. This cost was applied only to the 25 percent of small company vessels estimated to currently have inadequate equipment. In addition, each vessel will need to obtain and post a placard with telephone numbers for reporting waste deposits, at the standard cost.

**237.5(d).** Each company will need to develop a form for recording waste deposits. This is estimated to require 1 hour of managerial time at each company. Filling out the forms when waste deposits occur is estimated to require 15 minutes of supervisor's time for each deposit. Deposits are estimated to occur only once per year and these costs were assessed only for those vessels not currently in compliance.

#### **Packaged Garbage: Vessels Transporting Garbage from Vessels Anchored Offshore**

Four vessels transport waste from vessels, primarily cruise ships, anchored offshore in Alaskan ports. These vessels are each owned and operated by small companies. Based on the number of cruise ships serviced during the season, the average number of loads handled by each of these four vessels is 142. The estimated labor rates for this segment are based on the average annual wage in Alaska for workers in SIC 4491, Water Transportation Services (NEC) (BLS, 1993). The wage rates for 1991 were adjusted to include benefits and inflation, and the rates for skilled labor, supervisory, and management time were estimated by scaling up the basic wage rate. The resulting labor rates are:

- Management: \$30.90
- Supervisor: \$24.72
- Skilled Labor: \$22.25
- Unskilled Labor: \$16.48

**237.5(b).** Each company will need to develop an O&M manual covering handling of packaged garbage from vessels anchored offshore. As described above for OSVs, this is estimated to require the equivalent of 28 hours of supervisor's time.

**237.5(c).** Because no significant waste deposits are known to occur in this segment, no costs are predicted for cleanup equipment or activities. However, each vessel will need to post a placard with the phone numbers and oversight authorities for reporting waste deposits. This is estimated at the standard cost.

**237.5(d).** Each company will need to develop a waste deposit record form, estimated to require 1 hour of manager's time at each company. However, because no waste deposits are anticipated, no costs were estimated for filling out the waste deposit records or maintaining them in files.

#### **Packaged Garbage: Vessels Transporting Garbage from Islands**

The landing craft servicing Georges Island in Boston Harbor is government owned and operated. Two small companies operate the barges serving Fire Island in New York. The vessel in Boston Harbor makes two trips per day for 6 months of the year, or 364 voyages per year. The other vessels are estimated to make an average of 140 voyages per year.

Labor rates for this segment are an average of those for Massachusetts and New York in SIC 4491, as described above for Alaska. The resulting labor rates are:

- Management: \$35.23
- Supervisor: \$28.19
- Skilled Labor: \$25.37
- Unskilled Labor: \$18.79

**237.5(b).** Each company and government entity will need to develop an O&M manual for handling these wastes. As described for OSVs, this is estimated to require the equivalent of 28 hours of supervisory time.

**237.5(c).** These vessels are sufficiently equipped to clean up waste deposits. However, each vessel will require a placard, at the standard cost, with the telephone number of the oversight authority to which waste deposits must be reported.

**237.5(d).** Each company will need to develop a waste deposit record form, requiring 1 hour of management time. However, because no significant waste deposits are anticipated, no costs are predicted for filling out the forms or maintaining the records.

#### **Sewage Sludge: Barges**

Three large companies and one government entity operate these vessels. The labor rates used for this segment are the same as those reported by the NYC DOS for its garbage barge operations. It was estimated that each barge makes an average of two voyages per day.

**237.5(b).** Each operating entity will need to develop O&M manuals for sludge transport. As described for OSVs, above, this is estimated to require the equivalent of 28 hours of supervisor's time for each company or government entity.

**237.5(c).** Cleanup of waste deposits is currently carried out to the extent technologically feasible, therefore, no additional equipment cost or cleanup time is anticipated. However, each vessel will need to post a placard regarding the reporting of waste deposits. This cost has been estimated



at the standard rate of \$17 for the placard plus 2 hours of supervisor's time for obtaining and posting it, for each vessel.

**237.5(d).** Each entity will need to develop a form for recording waste deposits, estimated at 1 hour of managerial time for each company. Assuming that 1 percent of voyages will involve a waste deposit, seven forms will need to be filled out each year for each vessel. At 15 minutes per deposit, this results in 1.75 hours of supervisory time per vessel per year. Maintaining the waste deposit records is estimated to involve negligible costs.

#### **Drilling Muds: Deck Shale Barges and Hopper Barges**

The vessels handling drilling muds and cuttings and the companies which own and operate them were identified from the U.S. Coast Guard database of SPA-permitted vessels. Small companies were defined as those operating fewer than ten barges. The labor rates are estimated to be the same as those for the other oil and gas-related vessel industry segments. Each vessel is estimated to make two voyages per week or approximately 100 voyages per year.

**237.5(b).** Each of the companies operating these vessels will need to develop an O&M manual. As described for OSVs, this is estimated to require the equivalent of 28 hours of supervisor's time for each company, plus \$5 in materials for each manual.

**237.5(c).** All of the operators of deck shale barges and hopper barges have the equipment and spill containment and cleanup materials on hand to clean up waste deposits to the extent feasible. Therefore, no costs have been estimated for equipment purchase or waste cleanup. However, each vessel will need to post a placard with spill reporting procedures and telephone numbers of oversight authorities, estimated at the standard cost of \$17 plus 2 hours of supervisor's time for each vessel.

**237.5(d).** Each company will need to develop a form for recording waste deposits. This is estimated to require 1 hour of manager's time for each company. Assuming 15 minutes are required to record each deposit, a total of 2.5 hours of supervisory time per year per vessel will be required for filling out the forms. Storing and maintaining the record is estimated to be a negligible cost.

### **4.3 Summary of Compliance Costs**

Exhibits 4-2 through 4-9 summarize the estimated costs of compliance with the proposed SPA regulation by industry segment and provision of the standard. The exhibits and the data summarized in each are as follows:

- Exhibit 4-2:** First-year costs for shoreside facilities for small companies, large companies, and government entities (i.e., government-operated facilities)
- Exhibit 4-3:** Total first-year costs for all shoreside facilities
- Exhibit 4-4:** Annual (recurring) costs for shoreside facilities for small companies, large companies, and government entities (i.e., government-operated facilities)
- Exhibit 4-5:** Annual (recurring) costs for all shoreside facilities

- Exhibit 4-6:** First-year costs for waste transport vessels for small companies, large companies, and government entities (i.e., government-operated facilities)
- Exhibit 4-7:** Total first-year costs for all waste transport vessels
- Exhibit 4-8:** Annual (recurring) costs for waste transport vessels for small companies, large companies, and government entities (i.e., government-operated facilities)
- Exhibit 4-9:** Annual (recurring) costs for all waste transport vessels

The total estimated first-year costs of compliance for all segments, including shoreside facilities and vessels, is \$1.75 million, including \$1.3 million for waste transport vessels and \$450,000 for shoreside facilities. Of the total estimated first-year costs for shoreside facilities, about 75 percent are expected to be incurred by the receiving facilities for packaged garbage from offshore oil and gas platforms. The majority of the remaining first-year costs are expected to be incurred by the NYC Marine Transfer Stations and the Fresh Kills landfill.

The greatest single element of first-year costs will be for the additional time required in following revised procedures for unloading packaged garbage from OSVs at the oil and gas supply bases. The remaining costs are attributable to the development and revisions of O&M manuals and developing and keeping waste deposit records. The impacts of these costs are discussed fully in Chapter 6.

Approximately 82 percent of the estimated first-year costs for waste transport vessels are expected to be incurred by OSVs serving the offshore oil and gas industry. Most of the remaining first-year costs will be incurred by barges receiving and transporting drilling muds from the inland and offshore oil and gas industry. These same two segments account for an even greater share of the annual (recurring) costs.

# Shoreside Facilities: First-Year Costs

## Commercial Facilities

Small Companies by Industry Segment	Provision					TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	237.5(e) O&M Manuals	
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$182,006	\$0	\$6,454	\$1,863	\$66,692	\$257,015
Receiving Facility for Packaged Garbage from Vessels Anchored Offshore	\$0	\$0	\$282	\$144	\$2,322	\$2,747
Islands (Sources of Packaged Garbage)	\$0	\$0	\$672	\$271	\$4,366	\$5,309
Drilling Mud Receiving Facilities (Oil Field Treatment Facs.)	\$0	\$0	\$1,505	\$0	\$1,652	\$3,157
<b>TOTAL</b>	<b>\$182,006</b>	<b>\$0</b>	<b>\$8,913</b>	<b>\$2,278</b>	<b>\$75,031</b>	<b>\$268,229</b>

Large Companies by Industry Segment						
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$33,020	\$0	\$5,502	\$2,535	\$35,435	\$76,491
Receiving Facilities for Packaged Garbage from Islands	\$0	\$0	\$89	\$45	\$728	\$862
Sewage Sludge Receiving Facilities	\$0	\$0	\$291	\$691	\$571	\$1,553
Drilling Mud Receiving Facilities (Oil Field Treatment Facs.)	\$0	\$0	\$1,505	\$0	\$1,652	\$3,157
<b>TOTAL</b>	<b>\$33,020</b>	<b>\$0</b>	<b>\$7,387</b>	<b>\$3,271</b>	<b>\$38,385</b>	<b>\$82,063</b>

## Government Facilities

Industry Segment						
Marine Transfer Stations for Uncontainerized Garbage (NYC)	\$0	\$0	\$582	\$52,291	\$178	\$53,051
Receiving Facility for Uncontainerized Garbage (Fresh Kills Landfill)	\$0	\$0	\$73	\$32,656	\$143	\$32,871
Islands (Sources of Packaged Garbage)	\$0	\$0	\$693	\$316	\$5,303	\$6,313
Receiving Facilities for Packaged Garbage from Islands	\$0	\$0	\$89	\$45	\$728	\$862
Sewage Sludge Sources	\$0	\$0	\$510	\$682	\$1,209	\$2,401
Sewage Sludge Receiving Facilities	\$0	\$0	\$146	\$345	\$295	\$786
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,093</b>	<b>\$86,336</b>	<b>\$7,856</b>	<b>\$96,285</b>

# Shoreside Facilities: Total First-Year Compliance Costs

Industry Segment	Provision					TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	237.5(e) O&M Manuals	
Marine Transfer Stations for Uncontainerized Garbage (NYC)	\$0	\$0	\$582	\$52,291	\$178	\$53,051
Receiving Facility for Uncontainerized Garbage (Fresh Kills Landfill)	\$0	\$0	\$73	\$32,656	\$143	\$32,871
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$215,026	\$0	\$11,956	\$4,398	\$102,127	\$333,506
Receiving Facility for Packaged Garbage from Vessels Anchored Offshore	\$0	\$0	\$282	\$144	\$2,322	\$2,747
Islands (Sources of Packaged Garbage)	\$0	\$0	\$1,365	\$587	\$9,669	\$11,621
Receiving Facilities for Packaged Garbage from Islands	\$0	\$0	\$179	\$90	\$1,455	\$1,724
Sewage Sludge Sources	\$0	\$0	\$510	\$682	\$1,209	\$2,401
Sewage Sludge Receiving Facilities	\$0	\$0	\$437	\$1,036	\$866	\$2,339
Drilling Mud Receiving Facilities (Oil Field Treatment Facs.)	\$0	\$0	\$3,010	\$0	\$3,304	\$6,314
<b>TOTAL</b>	<b>\$215,026</b>	<b>\$0</b>	<b>\$18,393</b>	<b>\$91,885</b>	<b>\$121,273</b>	<b>\$446,576</b>

# Shoreside Facilities: Annual Costs

## Commercial Facilities

Small Companies by Industry Segment	Provision					TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	237.5(e) O&M Manuals	
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$43,768	\$0	\$2,782	\$0	N/A	\$46,550
Islands (Sources of Packaged Garbage)	\$0	\$0	\$136	\$0	N/A	\$136
<b>TOTAL</b>	<b>\$43,768</b>	<b>\$0</b>	<b>\$2,918</b>	<b>\$0</b>	<b>N/A</b>	<b>\$46,686</b>

Large Companies by Industry Segment						
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$7,940	\$0	\$505	\$0	N/A	\$8,445
Sewage Sludge Receiving Facilities	\$0	\$0	\$0	\$441	N/A	\$441
<b>TOTAL</b>	<b>\$7,940</b>	<b>\$0</b>	<b>\$505</b>	<b>\$441</b>	<b>N/A</b>	<b>\$8,886</b>

## Government Facilities

Industry Segment						
Marine Transfer Stations for Uncontainerized Garbage (NYC)	\$0	\$0	\$0	\$52,222	N/A	\$52,222
Receiving Facility for Uncontainerized Garbage (Fresh Kills Landfill)	\$0	\$0	\$0	\$32,639	N/A	\$32,639
Islands (Sources of Packaged Garbage)	\$0	\$0	\$68	\$0	N/A	\$68
Sewage Sludge Sources	\$0	\$0	\$0	\$95	N/A	\$95
Sewage Sludge Receiving Facilities	\$0	\$0	\$0	\$221	N/A	\$221
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$68</b>	<b>\$85,176</b>	<b>N/A</b>	<b>\$85,244</b>

N/A – Not applicable

# Shoreside Facilities: Total Annual Compliance Costs

Industry Segment	Provision					TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	237.5(e) O&M Manuals	
Marine Transfer Stations for Uncontainerized Garbage (NYC)	\$0	\$0	\$0	\$52,222	N/A	\$52,222
Receiving Facility for Uncontainerized Garbage (Fresh Kills Landfill)	\$0	\$0	\$0	\$32,639	N/A	\$32,639
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	\$51,708	\$0	\$3,286	\$0	N/A	\$54,995
Islands (Sources of Packaged Garbage)	\$0	\$0	\$204	\$0	N/A	\$204
Receiving Facilities for Packaged Garbage from Islands	\$0	\$0	\$0	\$0	N/A	\$0
Sewage Sludge Sources	\$0	\$0	\$0	\$95	N/A	\$95
Sewage Sludge Receiving Facilities	\$0	\$0	\$0	\$662	N/A	\$662
<b>TOTAL</b>	<b>\$51,708</b>	<b>\$0</b>	<b>\$3,491</b>	<b>\$85,617</b>	<b>N/A</b>	<b>\$140,816</b>

N/A – Not applicable

# Waste Transport Vessels: First-Year Costs

## Commercial Facilities

Commercial Facilities	Provision				
	237.5(a) Performance Standard	237.5(b) O&M Manuals	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	TOTAL
Small Companies by Industry Segment					
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$160,186	\$376,945	\$45,503	\$14,621	\$597,255
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	\$11,628	\$3,651	\$493	\$15,772
Vessels Transporting Garbage from Vessels Anchored Offshore	\$0	\$2,789	\$266	\$124	\$3,178
Vessels Transporting Packaged Garbage from Islands	\$0	\$1,589	\$294	\$141	\$2,023
Deck Shale Barges and Hopper Barges Handling Drilling Muds	\$0	\$46,069	\$4,023	\$4,661	\$54,753
<b>TOTAL</b>	<b>\$160,186</b>	<b>\$439,020</b>	<b>\$53,737</b>	<b>\$20,040</b>	<b>\$672,982</b>

Large Companies by Industry Segment					
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$0	\$416,734	\$42,115	\$15,054	\$473,902
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	\$2,144	\$3,651	\$76	\$5,871
Vessels Transporting Packaged Garbage from Islands	\$0	\$0	\$73	\$35	\$109
Barges Transporting Sewage Sludge	\$0	\$2,526	\$998	\$1,156	\$4,681
Deck Shale Barges and Hopper Barge Handling Drilling Muds	\$0	\$85,857	\$7,497	\$7,743	\$101,097
<b>TOTAL</b>	<b>\$0</b>	<b>\$507,261</b>	<b>\$54,335</b>	<b>\$24,063</b>	<b>\$585,659</b>

## Government Facilities

Industry Segment					
Barges for Uncontainerized Garbage (NYC DOS)	\$0	\$666	\$7,986	\$17,639	\$26,292
Vessels Transporting Packaged Garbage from Islands	\$0	\$794	\$73	\$35	\$903
Barges Transporting Sewage Sludge	\$0	\$842	\$77	\$89	\$1,008
<b>TOTAL</b>	<b>\$0</b>	<b>\$2,303</b>	<b>\$8,137</b>	<b>\$17,763</b>	<b>\$28,202</b>

# Waste Transport Vessels: Total First-Year Compliance Costs

Industry Segment	Provision				TOTAL
	237.5(a) Performance Standard	237.5(b) O&M Manuals	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	
Barges for Uncontainerized Garbage (NYC DOS)	\$0	\$666	\$7,986	\$17,639	\$26,292
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$160,186	\$793,678	\$87,618	\$29,675	\$1,071,157
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	\$13,772	\$7,302	\$568	\$21,642
Vessels Transporting Garbage from Vessels Anchored Offshore	\$0	\$2,789	\$266	\$124	\$3,178
Vessels Transporting Packaged Garbage from Islands	\$0	\$2,383	\$440	\$211	\$3,035
Barges Transporting Sewage Sludge	\$0	\$3,368	\$1,075	\$1,245	\$5,689
Deck Shale Barges and Hopper Barges Handling Drilling Muds	\$0	\$131,926	\$11,520	\$12,404	\$155,850
<b>TOTAL</b>	<b>\$160,186</b>	<b>\$948,583</b>	<b>\$116,208</b>	<b>\$61,866</b>	<b>\$1,286,843</b>



# Waste Transport Vessels: Annual Costs

## Commercial Facilities

Small Companies by Industry Segment	Provision				TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not.	237.5(d) Waste Dep. Records	
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$160,186	N/A	\$12,587	\$1,005	\$173,778
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	N/A	\$634	\$77	\$710
Deck Shale Barges and Hopper Barges Handling Drilling Muds	\$0	N/A	\$0	\$4,094	\$4,094
<b>TOTAL</b>	<b>\$160,186</b>	<b>N/A</b>	<b>\$13,221</b>	<b>\$5,175</b>	<b>\$178,582</b>

Large Companies by Industry Segment					
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$0	N/A	\$5,724	\$0	\$5,724
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	N/A	\$634	\$0	\$634
Barges Transporting Sewage Sludge	\$0	N/A	\$0	\$680	\$680
Deck Shale Barges and Hopper Barges Handling Drilling Muds	\$0	N/A	\$0	\$7,629	\$7,629
<b>TOTAL</b>	<b>\$0</b>	<b>N/A</b>	<b>\$6,358</b>	<b>\$8,309</b>	<b>\$14,667</b>

## Government Facilities

Industry Segment					
Barges for Uncontainerized Garbage (NYC DOS)	\$0	N/A	\$0	\$17,639	\$17,639
Barges Transporting Sewage Sludge	\$0	N/A	\$0	\$52	\$52
<b>TOTAL</b>	<b>\$0</b>	<b>N/A</b>	<b>\$0</b>	<b>\$17,691</b>	<b>\$17,691</b>

N/A – Not applicable

# Waste Transport Vessels: Total Annual Compliance Costs

Industry Segment	Provision				TOTAL
	237.5(a) Performance Standard	237.5(b) Fixed Lighting	237.5(c) Waste Dep. Clean & Not	237.5(d) Waste Dep. Records	
Barges for Uncontainerized Garbage (NYC DOS)	\$0	N/A	\$0	\$17,639	\$17,639
Supply Boats (OSVs) Transporting Muds & Packaged Garbage from Offshore Rigs	\$160,186	N/A	\$18,311	\$1,005	\$179,502
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	\$0	N/A	\$1,267	\$77	\$1,344
Barges Transporting Sewage Sludge	\$0	N/A	\$0	\$732	\$732
Deck Shale Barges and Hopper Barges Handling Drilling Muds	\$0	N/A	\$0	\$11,732	\$11,723
<b>TOTAL</b>	<b>\$160,186</b>	<b>N/A</b>	<b>\$19,579</b>	<b>\$31,176</b>	<b>\$210,940</b>

N/A – Not applicable



## **5.0 BENEFITS OF COMPLIANCE WITH THE PROPOSED REGULATION**

This chapter identifies the benefits that may occur as the result of compliance with the proposed regulation. The benefits of compliance, which are summarized in Exhibit 5-1, fall into four categories: 1) establishment of a minimum standard of practice for industry, 2) contribution to the reduction of marine pollution, 3) contribution to the reduction of marine debris and its impacts, and 4) contribution to the reduction of public health hazards. The chapter is structured around these four types of benefits and the four types of waste and related waste-handling practices identified in Chapter 3 as covered by SPA. In addition, there is a discussion of the complexity of monetizing the benefits of compliance with the proposed regulation.

### **5.1 Establishment of a Minimum Standard of Practice**

The regulation establishes a minimum standard of practice in the industry segments involved in the transfer of garbage, drilling muds, and sewage sludge to and from vessels and the transport of these commercial and municipal wastes by vessel. The regulation establishes a minimum standard of practice not only for existing industry, companies or government entities using this form of waste-handling but for those that will choose to do so in the future. Minimizing the release of municipal and commercial solid waste into coastal waters through these standards should contribute to the reduction of the adverse impacts of these wastes on the marine environment and its economic potential and help to avoid potential public health risks.

### **5.2 Contribution to Reduction in Marine Pollution**

An Office of Technology study, *Wastes in the Marine Environment*, concluded that many of the adverse impacts on water and organisms are caused by the introduction of pollutants through the disposal of wastes (OTA, 1987). The same study cited the following observed effects of wastes in estuaries and coastal waters:

- impacts on water quality;
- loss of submerged aquatic vegetation;
- impacts on fish and shellfish;
- impacts on entire marine communities such as species of fish or marine mammals;
- closure of beaches and shellfish grounds because of contamination;
- a rising incidence of reported human disease from consuming contaminated shellfish or swimming in contaminated waters; and
- accumulation of toxic pollutants in sediments.

As indicated by this list, accumulations of municipal and commercial wastes, sewage sludge, and drilling muds eventually enter into the sediments. While the relative role of wastes, sludge, and drilling muds to the contamination of sediments is not fully understood, these sources of pollution contribute to this problem. Reducing the contamination of sediments will benefit: 1) benthic biota, and 2) higher-level foodchain species, including humans.

Bottom-dwelling (i.e., benthic) organisms consist of species that live within the bottom sediments, and others living upon the bottom surface or in the near-bottom portion of the water column, including filter-feeders and deposit-feeders. Some species burrow; others attach themselves to

# Benefits Of Compliance With The SPA Regulation

Type of Benefit	Uncontainerized Garbage	Packaged Garbage	Sewage Sludge	Drilling Muds
Contribution to Reduction in Marine Pollution	x	x	x	x
Contribution to Reduction in Marine Debris and Its Impacts:				
• Aesthetic Losses	x	x		
• Tourism Losses	x	x		
• Clean-Up Costs	x	x		
• Entanglement	x	x		
• Fouling of Vessels	x	x		
• Fouling of Fishing Gear	x	x		
• Ingestion	x	x		
• Long-Term Unknown Impacts	x	x	x	x
Contribution to Reduction in Public Health Hazards	x	x	x	

or crawl on the substratum surface. Deposit-feeders are of two types: 1) those that skim material off the upper layer of sediment; and 2) and those that eat their way through the sediments as they burrow.

Sensitive species that succumb readily to contaminated sediments will pose a relatively small threat to the foodchain. It is the more tolerant species that accumulate contaminants in their tissues and survive that represent the greater threat because these organisms can serve as prey to other species, passing contamination up the food chain, ultimately to predatory birds and mammals, including humans.

Municipal and commercial wastes in coastal waters contributes to the overall degradation of the marine environment and to marine pollution. It therefore follows that anything that prevents these types of wastes from being disposed of in the marine environment will contribute to a reduction in marine pollution.

### **5.3 Contribution to Reduction in Marine Debris and Its Impacts**

The term "marine debris" refers to any man-made object in the marine environment, although the term is often used to refer specifically to persistent plastics in the ocean. It is really a subset of marine pollution, but marine debris is singled out as a separate issue here because of the number of problems it causes and the fact that waste-handling practices of two of the three types of waste covered by the SPA regulation (particularly municipal wastes and potentially sewage sludge) contribute to it.

Marine debris can float at the surface, be suspended, sink to the ocean floor or break up and persist at the microscopic level. It causes a variety of problems for wildlife, maritime commerce, and coastal communities. All marine user groups as well as land-based sources have been identified as contributors to the problems of marine debris (CMC, 1988, 1992; OTA, 1987; Shomura, 1990; Cottingham, 1988). Municipal and commercial wastes transported over water contribute to the marine debris problem, but are by no means the primary source of the problem. Minimizing municipal and commercial waste deposits in the coastal U.S. waters during loading, offloading, and transport by vessels will contribute to solving the marine debris problem, but by itself will not solve the problem. The types of problems for wildlife, maritime commerce, and coastal communities caused by marine debris are elaborated upon below.

#### **5.3.1 Aesthetic Losses**

Debris in the water and washed up onto beaches is ugly. Municipal solid waste and sewage sludge deposited into coastal waters may end up as polluting coastal waters with associated aesthetic losses in coastal recreation areas where marine debris and waste accumulates. These losses are demonstrated by users who are willing to go to extra expense to avoid marine debris either through efforts of beach cleanups or extra travel time to use less polluted recreational areas. Property owners in coastal areas may experience losses in property value when marine debris makes the property less desirable from either an aesthetic or recreational point of view (Meade, 1990). A study of persistent marine debris identified aesthetic degradation and the accompanying costs of clean up as the most serious impact of marine debris in the Northwest Atlantic area (Heneman, 1988).

The universal response to dirty beaches is to clean them up. In the last few years, a national volunteer beach clean up has been organized as part of the celebration of COAST WEEKS each September. As seen in Exhibit 5-2, which summarizes the results of these clean up efforts for 1988 through 1991, this program has grown in terms of number of participants, miles of beach cleaned, and pounds of debris collected. Admittedly, not all the debris collected comes from vessels carrying commercial or municipal wastes or their corresponding waste sources or receiving facilities. Nonetheless, to the extent that these wastes become marine debris, they may well be part of the beach litter cleaned up in this national effort.

The concern about dirty beaches and related impacts to tourism and governmental clean up costs has led to Adopt-a-Beach Programs in some communities. For example, the State of Texas established a State Adopt-a-Beach Program in 1986 to increase public awareness of the beach litter problem, to augment other beach cleaning efforts, and to involve citizens in the solution to the marine debris problem (Texas General Lands Office, 1993).

### **5.3.2 Tourism Losses**

Revenue losses can also result from marine debris through losses to the travel and tourism industry. Municipal solid waste and sewage sludge deposited into coastal waters may end up as marine debris that contributes not only to aesthetic losses in coastal recreation areas, but to losses in tourism. A study detailing the effects of debris on an individual's willingness to pay for tourist accommodations in coastal Massachusetts found that overnight visitors place a premium on reduced quantities of beach litter (Wilman as reported in Meade, 1990).

Efforts to develop regional tourism may be thwarted by negative perceptions of and experience with the environmental quality of the coastal zone. A study of the impacts of the offshore marine industry on coastal tourism found that the level of satisfaction with beaches was directly related to the perceived frequency of seeing litter and debris and from getting dirty or stained with tar. Trip satisfaction was found to be directly tied to satisfaction with the beach, while perceptions concerning beach litter and debris had an indirect effect on trip satisfaction (Roehl, 1993). Clearly, beach and trip satisfaction have potential economic implications for developing a strong local or regional tourism or recreation industry.

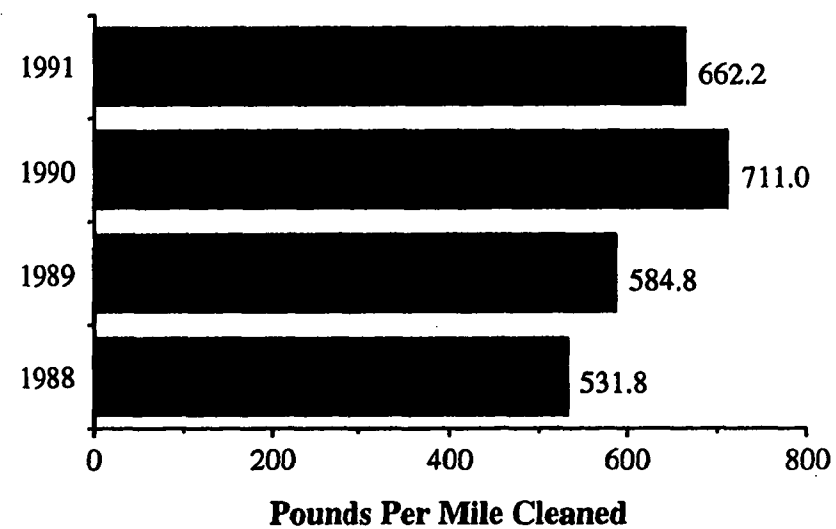
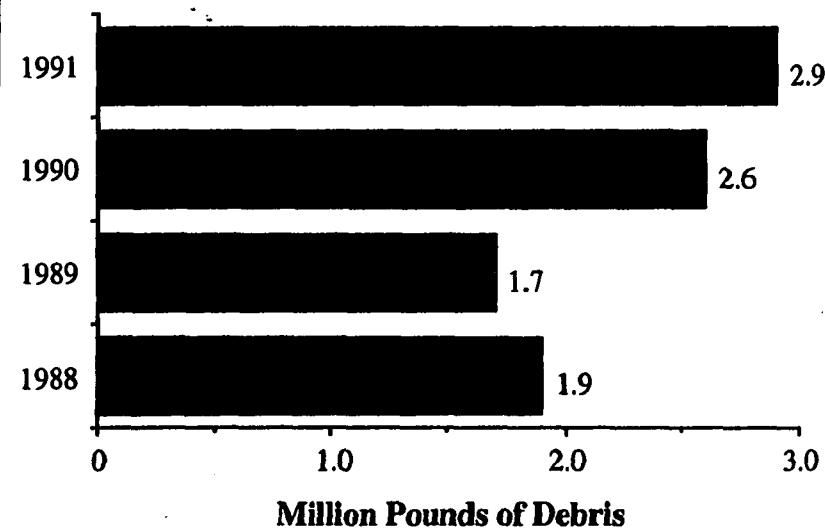
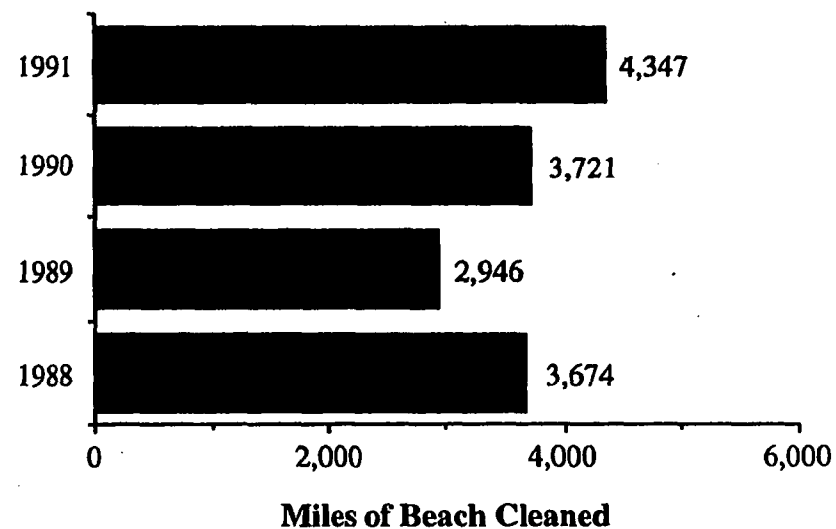
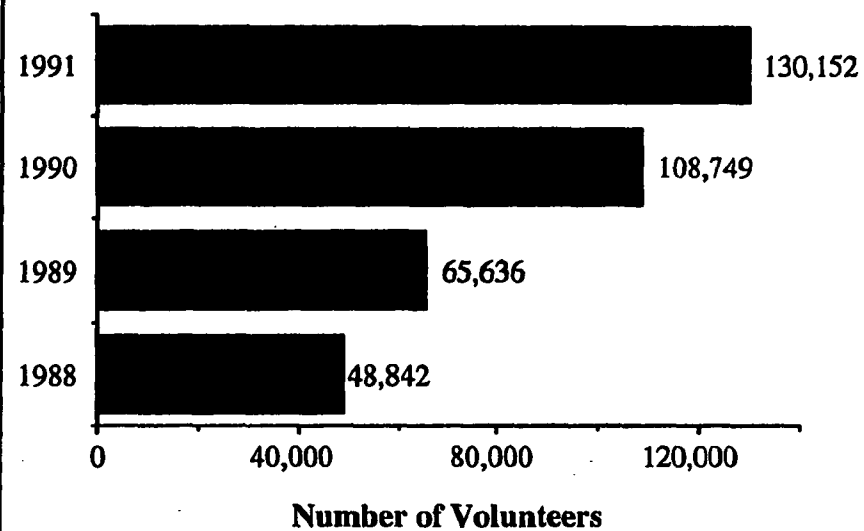
Local economies with developed tourism may suffer revenue losses due to degradation of environmental quality from marine debris. A synthesis of the literature focusing on the economic impacts of the beach closings in the New York and New Jersey area from floatable debris and medical waste washup in 1988 identifies some of the economic impacts of these closings (Wagner, 1990). For example, the Long Island Tourism and Convention Center documented a decline in tourism and estimated the economic losses from the decline in visitors and accompanying expenditures at \$1.4 billion. (The actual net effect was estimated to be lower than \$1.4 billion because some visitor expenditures were likely to have been made elsewhere in the area, just not at the beach.) A survey of New York City and Long Island charter boat and party boat captains indicated a decline in passengers in 1988 compared to previous years. The captains cited floatable wastes as the most important issue affecting their business. A New York State Department of Environmental Conservation study (also summarized in Wagner 1990) identified the Fresh Kills Landfill and the barges carrying the wastes, and the marine transfer stations as one of the primary sources of medical waste and other floatable marine debris along the shores of NYC, Long Island, and nearby areas. Other sources of floatable debris included combined sewer overflows, raw sewage discharges, storm water outlets, and illegal dumping.

# Summary Of Coastal Cleanup Results

Chapter 5.0

5-5

Benefits of Compliance



Sources: CMC, 1989; 1990; 1991; and 1992.



### **5.3.3 Clean Up Costs**

Some coastal communities and other government agencies spend considerable time and money cleaning up and maintaining recreational beaches. Enforcement officers are sometimes used to patrol and control for beach litter left by beach goers. Not all beach litter is the result of beach goers, however. In the Gulf of Mexico, for example, sampling studies show that less than 10 percent of the beach litter comes from beach goers. The remaining 90 percent comes from the Gulf of Mexico itself, from all the marine user groups (Luken, 1985). Texas coastal communities are reported to spend about \$14 million annually on beach cleaning. The Padre Island National Seashore in Texas spends about \$10,000 per year on beach cleaning efforts, primarily in the most heavily visited 0.5 mile stretch of beach (King, 1985). Almost all of the complaints received by the park's staff since its founding in 1962 focus on the beach litter problem (Luken, 1985).

### **5.3.4 Animal Entanglement**

One of the ways that marine debris affects wildlife occurs when animals become entangled in it. An animal can suffocate, strangle or exhaust itself when it becomes entangled in plastic debris, such as strapping bands, beverage container rings, rope, or net. Municipal solid waste which includes these items may end up as marine debris and contribute to the problem of animal entanglement. Marine and terrestrial mammals and sea and shore birds have been identified as being particularly vulnerable to entanglement by plastic debris (Cottingham, 1988; Heneman, 1988). Much of the literature on animal entanglement focuses on the problem of entanglement caused by fishing nets (Shomura, 1990). However, there are examples of animal entanglement in items which could have come from municipal solid waste deposited in coastal waters. For example, during an international beach cleanup in 1991, volunteers found dead birds and fish entangled in the following items which could be part of municipal solid waste: socks, plastic bags, plastic cups, rope, string, beverage container rings, tires, and balloon ribbon (CMC, 1992).

### **5.3.5 Fouling of Vessels**

Vessels can become entangled in marine debris as well as animals. To the extent that municipal solid waste includes items such as rope and strapping bands which are deposited into coastal waters it may contribute to the problem of fouling of vessels. This creates extra and unexpected expense for vessel owners. A 1987 survey of fishermen in the Seattle area, 64 percent of the respondents indicated their vessels had been damaged by plastic debris within the last 2 years. The estimated cost of repairs and downtime was \$110,000 (Cottingham, 1988). In a survey of commercial and recreational fishermen, the vessel propeller of 45 percent of the commercial fishermen and 28 percent of the recreational fishermen had at some time been entangled in plastic debris (Wallace, 1990). The vessel's cooling intake system had been clogged by plastic debris for almost 40 percent of the commercial fishermen and about 21 percent of the recreational fishermen.

### **5.3.6 Fouling of Fishing Gear**

Fishing gear also becomes entangled in marine debris. Municipal solid waste includes items such as rope and strapping bands which may contribute to the problem of fouling of fishing gear. This creates extra and unexpected expense for the affected fishermen. In a survey of commercial and recreational fishermen, over 30 percent of the commercial fishermen and between 15 and 20

percent of the recreational fishermen had had their gear caught or fouled by plastic debris (Wallace, 1990).

### **5.3.7 Ingestion by Wildlife and Fisheries**

The second way that marine debris affects wildlife occurs when animals ingest it. Plastic particles have been found by researchers in about 63 percent of the world's 250 seabird species (Cottingham, 1988). Since plastic is nondigestible, individual pieces accumulate in the animal's gut. The animal stops feeding because it thinks it is full. Breeding is reduced and migration hindered. The bird slowly starves to death. Sea turtles often mistake plastic bags for jelly fish, plankton, or the larval stages of crabs. All types of plastic items have been found in dead sea turtles – plastic bags, balloons, line or rope, beads or pellets, and shards of polystyrene, for example (Plotkin, 1990; Balazs, 1985). Many populations of sea turtles are already threatened or endangered from overfishing or other adverse factors such as floating debris. To the extent that municipal solid waste includes plastics items such as polystyrene, sheeting, or bags, it may contribute to the problem of ingestion of plastics by animals. In addition to the concern about populations of the species affected by ingesting plastic debris, the concern is also that the plastic will enter into the human food chain.

### **5.3.8 Long-Term Unknown Impacts**

The problems and consequences of marine debris have only fairly recently received wide-spread attention. For example, the first workshop on the fate and impact of marine debris was held in 1984 (Shomura and Yoshida, 1985). There may be other, as yet unknown, long-term impacts from marine debris on the environment and/or on human health.

## **5.4 Contribution to Reduction in Public Health Hazards**

Municipal solid waste in the form of sewage sludge deposited into coastal waters can create surface slicks, decrease water transparency, and wash up on beaches creating potential health hazards. The public health hazards include the threat of long term heavy-metal toxicity, the accumulation of persistent chlorinated hydrocarbons, and infectious pathogenic viruses, bacteria, and parasites (Vaccaro, 1981). There are two ways contaminants can be passed to humans – directly, typically through the air or skin or ingestion such as swallowing contaminated water or indirectly through ingestion of contaminated plants or animals. Human health impacts result from direct and indirect exposure to pathogens (OTA, 1987). The etiological agents of typhoid fever, food poisoning, and anaerobic dysentery are recognized human pathogens commonly associated with sewage sludge (Vaccaro, 1981). A major route to human exposure to metals and organic chemicals is through consumption of contaminated seafood (OTA, 1987). Preventing sewage sludge releases in nearshore coastal waters is obviously one mechanism to reduce the potential public health risks associated with it.

## **5.5 Complexity in Monetizing Benefits**

There are three insurmountable complexities in quantifying the anticipated benefits from the proposed regulatory changes. First, injury to living marine resources and humans from marine debris, pollution, and contaminated sediments is highly dependent on site-specific chemical and environmental conditions. Second, the relationship between contamination levels and organisms is understood only for a limited number of the "less-valuable" species under laboratory

conditions. Information on the marginal impacts to biota and the ecosystem from different contamination levels are not available. Third, most of the prevented injuries flow from natural resource services, which must be measured on a marginal basis depending on site-specific conditions. A brief summary of these issues follows.

#### **5.5.1 Inability to Depict Relative Role of SPA-Related Pollution to Aggregate Pollution Levels**

While some limited estimates of aggregate problems associated with marine debris are available, there is no basis to estimate the relative proportion of these aggregate estimates to those pollution incidents addressed by SPA. On the aggregate basis, there are many pollution sources of marine debris (commercial and military vessels, pleasure craft, beach users, sewer systems, the fishing industry, etc.) which are likely to be more significant than vessels transporting municipal and commercial wastes. However, as the incidents in New York and New Jersey indicate, at the site-specific level, these activities can be a major cause of debris-related pollution. There are no data upon which to base an estimate of the relative role that SPA-related pollution plays in the overall problem.

#### **5.5.2 Inability to Extrapolate Site-Specific Environmental Conditions to Generalized Regulatory Changes**

Real-world marine pollution and contamination is made up of hundreds of known hazardous constituents and contamination levels cannot be defined in terms of a generic unit of "toxicity." It is not uncommon for one sample to be evaluated relative to 50 to 100 chemical constituents. In this way, the mix of the various contaminants is highly site-specific and can vary depending on the location or even at different depths within the sediment. Because the draft regulations propose to manage release of pollution, not contamination levels per se, the draft action cannot be characterized in terms of some physical unit of contamination (e.g., concentration of heavy metals).

#### **5.5.3 Inability to Relate Pollution Levels to Macro Changes in Species Abundance**

Even for a given level of any pollution, the ultimate toxicity to the marine environment is highly dependent on a range of other site-specific factors including: sediment particle size, the organic carbon content and permeability of the sediment, oxygen content of sediments and overlying waters, water temperature, salinity, presence and relative mix of other contaminants, extent of natural nutrients, the nature and extent of local populations of marine biota, mobility of the biota at issue, and the presence of other, unrelated natural or man-made adverse conditions. Measures of toxicity represent a complex web of dozens of site-specific factors that prevent the biological measurement of the outcomes of the proposed action.

#### **5.5.4 Measurement Issues in Monetizing Injuries to Complex Natural Resources**

The final and most limiting hindrance to monetizing the benefits of the proposed action results from the complexity in measuring economic damages from subtle impacts on the marine environment. In general, the measurable benefits of isolating contaminated sediment from the general marine environment include enhancements to the biological health of resources. Further, species important to humans such as seabirds and marine mammals could also expect to benefit. Public health effects, enhanced recreational fishing opportunities, and enhanced opportunities for

safe, marine-dependent outdoor recreation are also benefits. Some of these benefits can be measured in terms of the value of the commercial fisheries, recreational fisheries, and recreation opportunities. However, in order for even these more obvious benefits to be monetized, a measurable relationship between pollution levels and macro marine populations would be required. As previously discussed, such a basis does not exist in the existing literature, and development of these data would require an extensive and costly research initiative.

Monetizing value becomes even more complex when highly migratory and upper-trophic level organisms are involved. For example, in the case of marine mammals and seabirds, total compensable value flowing from the resources would include a range of additional non-use values:

- Nonconsumptive resource values such as those derived from wildlife observation, diving, and swimming;
- Option values as measured by the willingness to pay to maintain the resource for future use by that individual; and
- Bequest and genetic values including the value of preserving a resource for future generations.

Other benefits would relate to human-health risks and the value of adjacent coastal property.

While tools (e.g., contingent valuation, travel cost, and hedonic pricing methods, etc.) are available for monetizing impacts on marine environmental services, any predicted results are highly site-specific and only meaningful if measured on a marginal basis. In this way, even if monetized estimates were available, they would not be applicable to the relatively large volumes of sediments addressed in this analysis.

For the above noted reasons, monetized estimates of anticipated benefits cannot be made at this time. Even if monetized benefits were to be derived from the existing literature, such benefit estimates would be highly speculative.

## 6.0 Impacts

## **6.0 IMPACTS OF COMPLIANCE COSTS ON AFFECTED INDUSTRIES**

The economic impacts of the proposed SPA regulation on the affected industries must be examined in a number of ways. This chapter summarizes the implications of the estimated costs presented in Chapter 4 on the affected industry segments. References to government entities in this chapter refer to government-operated facilities or vessels. In this situation, these are State and local government entities.

The questions to be answered in the following sections include:

- What are the costs on a per-facility, per-vessel, or per-company basis?
- Are the costs significant relative to profits, revenues, or (for government entities) costs for any industry segment?
- If the costs are significant, can they be passed on to customers or consumers or must they be absorbed by the affected industries?
- Is any geographical region impacted more severely or differently than other regions?
- How are the overall costs distributed between government entities and the private sector? Further, within the private sector, are the impacts different between small and large businesses?

Section 6.1 presents the costs on per-vessel and per-facility bases and discusses the significance of costs on the affected industry segments.

In addition to the foregoing questions, it is necessary to satisfy certain specific requirements pertaining to regulatory impact analysis. Executive Order 12866<sup>1</sup> which calls for balancing benefits and costs, minimizing unnecessary regulations, and selecting the regulation which achieves the stated goals at the least cost. The Order requires that a regulatory impact analysis (RIA) be performed for each "significant regulatory action," which is defined as one that has an annual affect on the economy of \$100 million or more or adversely affects in a material way the economy or a sector of the economy. However, a regulatory impact analysis can be required for virtually any regulatory action at the request of OMB. Each federal agency is required to prepare a preliminary and final RIA of each major rule for OMB review. The RIAs are to contain the following kinds of information:

- "(1) A description of the potential benefits of the rule, including any beneficial effects that cannot be quantified in monetary terms, and the identification of those likely to receive the benefits;

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<sup>1</sup> Executive Order 12866 was issued October 4, 1993, and supersedes Executive Orders 12291 and 12498. E.O. 12866 sets forth similar requirements for regulatory impact analysis as the prior Orders and was used throughout this analysis.

- (2) A description of the potential costs of the rule, including any adverse effects that cannot be quantified in monetary terms, and the identification of those likely to bear the costs;
- (3) A determination of the potential net benefits of the rule, including an evaluation of the effects that cannot be quantified in monetary terms;
- (4) A description of alternative approaches that could substantially achieve the same regulatory goal at a lower cost, together with an analysis of this potential benefit and costs and a brief explanation of the legal reasons why such alternatives, if proposed, could not be adopted; and
- (5) Unless covered [above] ..., an explanation of any legal reasons why the rule cannot be based on the requirements set forth in ... this order."

This report is focused on items (1) and (2) above. Because the proposed SPA regulation is legislatively mandated, the flexibility in selecting alternatives and maximizing the net benefits has been significantly reduced and is not addressed here.

Additional requirements of the regulatory impact analysis are stipulated by the Regulatory Flexibility Act, which pertains primarily to small business effects, and the Paperwork Reduction Act. These statutes are discussed and addressed in Sections 6.2 and 6.3, respectively.

The following discussions of costs and impacts are based solely on the estimated first-year costs since they are significantly greater than the annual (recurring) costs. Annual costs will only be examined in greater detail where first-year costs are found to be significant.

## **6.1 Economic Impacts by Industry Segment**

Exhibit 6-1 presents the average first-year compliance costs per facility for each shoreside industry segment. Exhibit 6-2 presents the first-year costs for waste transport vessels on a per-vessel basis. The numbers of facilities and vessels are taken from the industry profiles in Chapter 3 and the total costs by segment are from Chapter 4. As evidenced by the results shown in the exhibit, the average costs on a per-facility or per-vessel basis are quite low and generally not significant.

"Not significant" costs are defined as being too small to have an effect on the decisions of how to operate the business. In the specific case of the proposed SPA regulation, the options a company could have available to respond to the costs of compliance would be:

- Absorb the costs, thus reducing profit;
- Raise prices, passing on the costs to customers;
- Discontinue the waste handling services; or
- Go out of business.

# Average First-Year Compliance Cost Per Facility

## Shoreside Facilities

Industry Segment	Number of Facilities				Total Cost for Segment				Average Cost Per Facility			
	Small	Large	Gov't*	Total	Small	Large	Gov't*	Total	Small	Large	Gov't*	Total
Marine Transfer Stations for Uncontainerized Garbage (NYC)	-	-	8	8	-	-	\$53,051	\$53,051	-	-	\$6,631	\$6,631
Receiving Facility for Uncontainerized Garbage (Fresh Kills Landfill)	-	-	1	1	-	-	\$32,871	\$32,871	-	-	\$32,871	\$32,871
Receiving Facility for Packaged Garbage from Oil and Gas Platforms	61	83	-	144	\$257,015	\$76,491	-	\$333,506	\$4,213	\$922	-	\$2,316
Receiving Facilities for Packaged Garbage from Vessels Anchored Offshore	3	-	-	3	\$2,747	-	-	\$2,747	\$916	-	-	\$916
Islands ( Sources of Packaged Garbage)	6	-	7	13	\$5,309	-	\$6,313	\$11,622	\$885	-	\$902	\$894
Receiving Facilities for Packaged from Islands	-	1	1	2	-	\$862	\$862	\$1,724	-	\$862	\$862	\$862
Sewage Sludge Sources	-	-	7	7	-	-	\$2,401	\$2,401	-	-	\$343	\$343
Sewage Sludge Receiving Facilities	-	4	2	6	-	\$1,553	\$786	\$2,339	-	\$388	\$393	\$390
Drilling Mud Receiving Facilities (Oil Field Treatment Facilities)	25	25	-	50	\$3,157	\$3,157	-	\$6,314	\$126	\$126	-	\$126

\* Government – State or local government-operated facilities



# Average First-Year Compliance Cost Per Vessel

## Waste Transportation Vessels

Industry Segment	Number of Vessels				Total Cost for Segment				Average Cost Per Vessel			
	Small	Large	Gov't*	Total	Small	Large	Gov't*	Total	Small	Large	Gov't*	Total
Barges for Uncontainerized Garbage (NYC)	-	-	104	104	-	-	\$26,292	\$26,292	-	-	\$253	\$253
Supply Boats (OSVs) Transporting Packaged Garbage and Muds from Offshore Rigs	360	398	-	758	\$597,255	\$473,902	-	\$1,071,157	\$1,659	\$1,191	-	\$1,413
Vessels Transporting Packaged Garbage from Inland Platforms and Rigs	33	33	-	66	\$15,772	\$5,871	-	\$21,643	\$478	\$178	-	\$328
Vessels Transporting Garbage from Vessels Anchored Offshore	4	-	-	4	\$3,178	-	-	\$3,178	\$795	-	-	\$795
Vessels Transporting Packaged Garbage from Islands	4	-	1	5	\$2,023	\$109	\$903	\$3,035	\$506	-	\$903	\$607
Barges Transporting Sewage Sludge	-	12	1	13	-	\$4,681	\$1,008	\$5,689	-	\$390	\$1,008	\$438
Deck Shale Barges and Hopper Barges Handling Drilling Muds and Cuttings	44	82	-	126	\$54,753	\$101,097	-	\$155,850	\$1,244	\$1,233	-	\$1,237

\* Government – State or local government-operated facilities

None of the compliance costs estimated for this regulation begin to approach the magnitude at which an affected party will be threatened with going out of business as a result of this regulation.

Discontinuing the waste handling service is not an option for the segments related to uncontainerized municipal waste (MTSs, Fresh Kills, and barges) or sewage sludge (sources, barges, and receiving facilities). Most of the affected parties in these segments are government entities. The estimated costs for the Marine Transfer Stations and Fresh Kills landfill in New York City are the largest per-facility costs of any segment. However, these costs represent primarily labor hours and account for a very small fraction (considerably less than 1 percent at the MTSs) of total labor hours at any of these facilities. Therefore, these costs are not significant for the NYC DOS facilities. The costs for the commercial sewage sludge receiving facilities and barges are very low, about \$390 per vessel or facility, and are considered inconsequential.

The segments related to packaged garbage from islands face fairly low compliance costs of less than \$1,000 per affected vessel or facility. Furthermore, they are providing a necessary service for which there are no easy substitutes and the entry barriers are greater than the incremental costs for the current players to comply with the proposed rule. These costs are expected to be absorbed or passed on in the form of higher fees.

The operators of vessels and receiving facilities for transporting packaged garbage from vessels anchored offshore will most likely be able to pass on most of their modest compliance costs of \$800-900 to the cruise ships they serve. If the total cost for these two segments of \$5,925 is distributed over the 568 total loads of garbage these vessels pick up each year, the cost per transaction is just over \$10, which could likely be added to the servicing fee.

The costs for the barges handling drilling muds and cuttings, about \$1,240 per vessel, should not have any significant economic effect. In addition, because all of these vessels will be affected in the same manner and at the same cost, none will gain any competitive advantage over the others as a result of the SPA regulation. A very modest price increase would quickly cover these costs. The oil field waste treatment facilities are virtually unaffected by the proposed regulation.

The commercial industry segments facing the greatest costs of compliance are those related to the transport of packaged garbage from oil and gas platforms and rigs. Small companies in this segment face an average estimated first-year cost of \$4,213. The major components of this cost are to purchase and use the equipment necessary to meet the performance standard and the time and effort required to develop an O&M manual. While this level of cost is not likely to cause a business failure, it may represent a significant portion of profits for some facilities. However, since every facility in this segment will face similar costs, it might be possible to pass through some of the costs.

A major aspect of these cost estimates is that they represent averages across all facilities. The range of costs among facilities is very broad in some segments. For instance, in the small oil and gas supply facility segment, costs will range from \$91 per facility for those which only need to post a placard and develop a waste deposit record form, up to \$5,346 for a facility which needs to purchase equipment, develop a manual, and implement changed procedures.

The major component of the costs for these facilities is the \$3,000 cable sling for lifting dumpsters from the OSVs onto the dock. This cost could be addressed in two ways. First, the

purchase could be capitalized, thus removing the bulk of the cost from the first year's expenses and spreading outlays over a longer period. If this asset were capitalized with a ten-year life at 7 percent, the annualized cost would be \$427 per year. In this case, the maximum first-year cost for a small oil and gas supply facility would be \$2,773. This level of costs is not expected to have a significant impact on any individual facilities. A second alternative for minimizing or avoiding the cost of a cable sling would be to develop and demonstrate alternative procedures as effective as the use of the sling.

One potential caveat germane to all costs applicable to the offshore oil and gas industry segments is that, while small, they are but one of numerous recent regulatory costs imposed on this industry. The cumulative effect of these costs is substantial. Examples of other regulations being imposed during the same general period include regulations applicable to drilling muds, cuttings, and produced waters, air emission regulations, dramatically higher liabilities imposed by the Oil Pollution Act of 1990, new vessel and facility spill response plans, regulations on the handling of hazardous materials at supply bases, to name but a few. These additional requirements on the offshore oil and gas industry come at a time when prices for domestic energy remain low and the industry is facing an uncertain future. Thus, while the SPA provisions applicable to oil and gas segments remain minor, they should be considered within the context of a much greater regulatory agenda facing the industry at a time of depressed revenues. Even within this context, however, the proposed regulations are of such a small magnitude that they represent a negligible portion of the substantial problems being faced by the industry.

## **6.2 Other Measures of Distribution of Economic Impacts**

No geographical region will suffer significant adverse economic effects as a result of the implementation of the proposed SPA regulation. However, different regions will be affected by different industry segments. Uncontainerized municipal waste is handled only in New York City. Other activities in the Northeast include sewage sludge transfers and packaged garbage from islands. The Gulf Coast, mainly Texas and Louisiana, is home to the majority of OSVs and supply bases handling packaged garbage, as well as the vessels and facilities handling drilling muds and cuttings. The west coast of the mainland United States consists of a few OSVs and supply bases, as well as the packaged garbage handling for vessels anchored offshore.

The distribution of costs between government and commercial entities is shown in Exhibit 6-3 for both initial and annual costs. Costs for government entities in the first year constitute only 7 percent of the total first-year costs. This is primarily because of the large number of commercial enterprises which will need to develop manuals and purchase equipment. However, government entities are expected to account for nearly 30 percent of the recurring annual costs.

## **6.3 Effects of the Proposed Rule on Small Entities**

### **Regulatory Flexibility Act Requirements**

The Regulatory Flexibility Act was enacted by Congress in September 1980 with the purpose of ensuring that regulatory and informational requirements are molded to the scale of those businesses, organizations, and government jurisdictions subject to federal regulations. To achieve this goal, the Act requires federal agencies to consider flexible regulatory alternatives and to explain their rationale for regulatory actions that affect small entities. The underlying premise of the Act is that existing regulations have often imposed disproportionately burdensome demands

## Distribution Of Total Cost Between Government And Commercial Entities

### First-Year Total Costs

	Commercial	Government*
Shoreside Facilities	\$350,000	\$96,000
Vessels	\$1,259,000	\$28,000
Total	\$1,609,000	\$124,000

### Annual (Recurring) Total Costs

	Commercial	Government*
Shoreside Facilities	\$56,000	\$85,000
Vessels	\$193,000	\$18,000
Total	\$249,000	\$103,000

\* Government entities – State and local government-operated facilities or vessels

on small businesses and other small entities, thereby adversely affecting market competition, restricting productivity improvements, and discouraging innovation. Under the Regulatory Flexibility Act, agencies are required to prepare and make available for public comment an initial regulatory flexibility analysis of small entities whenever a notice of proposed rulemaking is issued and a final regulatory flexibility analysis of small entities whenever a final rule is promulgated.

The exact requirements for the contents of the initial and final regulatory flexibility analyses differ. Generally, both analyses should contain, among other requirements: (1) a description of the need for and objectives of the rule; (2) a quantitative or qualitative analysis of the number of small entities subject to the rule and the effects of the rule on these entities; and (3) a description of alternatives to the rule that would minimize any significant economic impacts of the rule on small businesses and other small entities. Possible alternative regulations might include establishing different compliance timetables for small and large entities or perhaps exempting small businesses from the entire rule or certain portions of the rule. A regulatory flexibility analysis is generally included as part of the regulatory impact analysis required under Executive Order 12866 and reviewed by OMB.

### **Effects on Small Entities**

There is a potential that the proposed rule could differentially affect non-federal small entities involved in transport of commercial and municipal wastes by vessels. These entities could include small port authorities (including quasi-governmental organizations), small private companies (barge and OSV operators, oil and gas supply bases, and other sources and receiving facilities), and local governments (NYC DOS). However, based on the results described in Section 6.1 above, few negative effects on small entities are expected if the proposed rule is promulgated.

## **6.4 Recordkeeping Costs of the Proposed Rule**

### **Paperwork Reduction Act Requirements**

The purpose of the Paperwork Reduction Act of 1980 (P. L. 96-511; 44 USC Chapter 35) is to: 1) minimize the federal paperwork burden for individuals, small businesses, state and local governments, and other persons; 2) minimize the federal government's cost of collecting, maintaining, using, and disseminating information; and 3) maximize the usefulness of information collected by federal agencies. OMB has oversight responsibility under the Act and has promulgated implementing rules and procedures.<sup>2</sup>

For example, to obtain OMB approval for the collection of information, an agency must show that it has attempted to ensure that: 1) data collection is accomplished by the least burdensome means while allowing the agency to comply with the law and achieve program objectives; 2) information collected is not duplicated by other sources; and 3) the information has practical utility and is collected and used at minimum cost. Based on this analysis, OMB will consider whether the burden of all or part of the collection effort is justified by the practical utility of the information. OMB also has imposed specific strictures regarding data collection. For instance,

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<sup>2</sup> See 5 CFR Part 1320. Guidelines were initially prepared as shown in *Federal Register*, March 31, 1983, pp. 13666-13689.

OMB will not approve collection efforts that: 1) require respondents to report more often than quarterly; 2) require responses in fewer than 30 days; 3) do not separate and simplify reporting for small businesses and other small entities (i.e., relief under the Regulatory Flexibility Act); and 4) require respondents to submit proprietary, trade-secret, or other confidential information (unless the agency can show that procedures exist to protect confidentiality).

Under the OMB guidelines, information collection includes the use of written report forms, application forms, schedules, questionnaires, reporting or recordkeeping requirements, or other similar methods (e.g., contracts, agreements, plans, policy statements, rules or regulations, planning requirements, circulars, directives, interview guides, labeling requirements, telephone requests, and standard questionnaires used to monitor compliance with agency requirements). Requirements to obtain or compile information for the purpose of disclosure to members of the public or to the public at large (e.g., by posting, notification, or labeling) can also constitute information collection.<sup>3</sup>

In addition to these requirements under the Paperwork Reduction Act, there are special rules governing the collection of data that may be needed by a federal agency to develop a rule or evaluate a program, or for other reasons. OMB clearance is usually required if a federal agency has need of such information to be obtained through mail, telephone, or on-site surveys or other information- or data-gathering efforts that may impose a burden upon the respondent population. Federal agencies collecting information by means of identical questions from 10 or more persons (other than federal employees) must obtain prior clearance from OMB.<sup>4</sup>

#### **Recordkeeping Costs**

The proposed SPA regulation has been developed in accordance with the statutory requirements of the Shore Protection Act, 33 U.S.C. 2601, enacted November 18, 1988. Under §4103 of SPA (33 U.S.C. 2603), subparagraph (b)(2) requires "...as appropriate, the submission and adoption by each responsible party of an operation and maintenance manual identifying procedures to be used to prevent, report, and clean up any deposit of municipal or commercial waste into coastal waters, including recordkeeping requirements...." These statutory requirements are addressed in the proposed SPA regulation at 40 CFR §237.4(d) and (e) and §237.5(b) and (d).

The inclusion of waste handling and clean up procedures in the operation and maintenance (O&M) manuals of waste sources, receiving facilities and vessels is necessary for several reasons, in addition to the statutory requirement. First, the procedures must be developed, in written form, so that they are available for reference and training of employees. Second, written procedures for vessels must be available, if requested, for verification by the Department of Transportation (specifically, the U.S. Coast Guard) of proper waste handling procedures prior to granting a permit for waste transportation. Finally, the written procedures should be on hand upon inspection or for enforcement actions.

The recordkeeping requirements consist of documenting any waste deposits into coastal waters and the clean up status of such deposits. These records are necessary so that they will be

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<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

available upon inspection or request for permit renewal as an indicator of the effectiveness of the responsible party's procedures.

The O&M manuals may serve as training tools for employees to understand and follow the procedures necessary to minimize and clean up waste deposits. They will also serve as references for employees, following or in place of training [note: SPA does not require training of employees in these procedures]. Finally, the inclusion of procedures in the O&M manual will demonstrate upon permitting or enforcement that the responsible party does have procedures in place as required, and will provide a basis for evaluating the sufficiency of such procedures.

The records of waste deposits and clean up will serve, in conjunction with reporting, as an indicator of the effectiveness of the responsible parties' procedures. These records may be reviewed and considered by appropriate authorities during inspections as well as when the parties request permit renewal.

Development of the O&M manuals and the waste deposit reporting form are one-time only costs, whereas the reporting of waste deposits is an ongoing responsibility. The burdens of time and cost for fulfilling these recordkeeping requirements are summarized in Exhibit 6-4. The estimate provided in the exhibit includes average burden per responsible party. The annual cost will consist of keeping records of each waste deposit, which will vary widely across the affected parties, with a range of 0 to 1,170 hours per year (the upper end of this range is for the Fresh Kills Landfill). For the segments excluding Fresh Kills, the average burden hours for the annual component for each responsible party is only 8.1 hours. The annual burden might fluctuate, either increasing or decreasing, for any responsible party. This would depend on the frequency of waste deposits. It is anticipated that the total burden will decrease as waste deposit frequency decreases. No other fluctuations are expected.

## **6.5 Conclusion**

In summary, the estimated costs of compliance with the proposed SPA regulation are minimal for almost all responsible parties. If standard waste reporting forms were developed, both the total cost and the paperwork burden would be significantly reduced for the first year. Standardized procedures for waste handling to be included in O&M manuals would eliminate the majority of first-year costs estimated for the affected parties. Nevertheless, the estimated compliance costs associated with the proposed SPA regulation are expected to have no significant impact on any industry segments or even on the individual entities, whether shoreside facilities or vessels, involved in the transportation by vessel of municipal and commercial waste.

# Recordkeeping Burden And Costs

## Initial Burden

	Average Hours Per Responsible Party	Average Cost Per Responsible Party	Total Cost
Shoreside Facilities	22.9	\$518	\$127,000
Vessels	26.1	\$910	\$979,000
Total			\$1,106,000

## Annual Burden

	Average Hours Per Responsible Party	Average Cost Per Responsible Party	Total Cost
Shoreside Facilities	13	\$366	\$ 86,000
Vessels	2	\$29	\$ 31,000
Total			\$117,000



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**Appendix A:**  
**Details of Cost Estimates**

## **APPENDIX A**

### **DETAILS OF COST ESTIMATES**

The cost spreadsheets presented in this appendix show how the compliance cost estimates were developed in detail. The first spreadsheet (pages A-2 through A-28) contains the costs for shoreside facilities. The costs are shown by industry segment and provision of the proposed standard. There are three pages for each segment.

The second spreadsheet (pages A-29 through A-49) contains the costs for vessels transporting municipal or commercial waste. Individual cost elements are shown for each provision for each affected industry segment. There are three pages for each segment.

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

MARINE TRANSFER STATIONS FOR  
UNCONTAINERIZED GARBAGE (NYC)

Regulatory Requirement:	237.4(a) Performance Standard		237.4(b) Fixed Lighting	
	Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
	One-time Cost	Annual Cost	One-time Cost	Annual Cost
	Cost Basis: Site	Cost Basis: Loadings	Cost Basis: Site	Cost Basis: Site
Small Company Definition: n/a	Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...	Labor Costs	Labor Costs	Labor Costs	Labor Costs
	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Total Companies: 0	Hrs - Small: 0	Hrs - Small: 0	Hrs - Small: 0	Hrs - Small: 0
Small Companies: 0	Hrs - Large: 0	Hrs - Large: 0	Hrs - Large: 0	Hrs - Large: 0
Government Entities 1	Hrs - Gov't: 0	Hrs - Gov't: 0	Hrs - Gov't: 0	Hrs - Gov't: 0
Total Sites: 8	Unit Cost:	Unit Cost per Year:	Unit Cost:	Unit Cost:
Small Co. Sites: 0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 8	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
	Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
Labor Rates	Percent Affected:	Percent Affected:	Percent Affected:	Percent Affected:
Management: \$34.43	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$27.90	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$37.60	Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Unskilled Labor: \$18.49				
Average transactions per facility per year	Total Cost	Total Cost	Total Cost	Total Cost
Small company: 0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 936	Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### MARINE TRANSFER STATIONS FOR UNCONTAINERIZED GARBAGE (NYC)

Regulatory Requirement:

#### 237.4(c) Waste Deposit Cleanup and Notification

Action Required:

#### Purchase Equipment

#### Cleanup of Deposits and Operation and Maintenance

#### Post Telephone Number of Oversight Authority

Frequency of Cost:

#### One-time Cost

#### Annual Cost

#### One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

...

Total Companies: 0  
Small Companies: 0  
Government Entities: 1

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Maint. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Eq. Cost: \$17  
Labor Costs  
Hourly Rate: \$28  
Hrs-Small: 2  
Hrs-Large: 2  
Hrs-Gov't: 2

Total Sites: 8  
Small Co. Sites: 0  
Government Sites: 8

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost per Year:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost:  
Small Co.: \$73  
Large Co.: \$73  
Gov't: \$73

#### Labor Rates

Management: \$34.43  
Supervisor: \$27.90  
Skilled Labor: \$37.60  
Unskilled Labor: \$18.49

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 100%  
Large Cos.: 100%  
Gov't: 100%

Average transactions per facility per year  
Small company: 0  
Large company: 0  
Government: 936

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$582  
All Affected Cos.: \$582

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

MARINE TRANSFER STATIONS FOR UNCONTAINERIZED GARBAGE (NYC)

Regulatory Requirement:	237.4(d) Waste Deposit Records		237.4(e) O&M Manuals	
Action Required:	Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:	One-time Cost	Annual Cost	One-time Cost	One-time Cost
	Cost Basis: Dept.	Cost Basis: Loadings	Cost Basis: Site	Cost Basis: Dept.
Small Company Definition: n/a	Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$5
...	Labor Costs	Labor Costs	Labor Costs	Labor Costs
	Hourly Rate: \$34	Hourly Rate: \$28	Hourly Rate: \$0	Hourly Rate: \$34
Total Companies: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Small Companies: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
Government Entities: 1	Hrs-Gov't: 2	Hrs-Gov't: 234	Hrs-Gov't: 0	Hrs-Gov't: 4
Total Sites: 8	Unit Cost:	Unit Cost per Year:	Unit Cost:	Unit Cost:
Small Co. Sites: 0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 8	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
	Gov't: \$69	Gov't: \$6,528	Gov't: \$0	Gov't: \$178
Labor Rates	Percent Affected:	Percent Affected:	Percent Affected:	Percent Affected:
Management: \$34.43	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$27.90	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$37.60	Gov't: 100%	Gov't: 100%	Gov't: 100%	Gov't: 100%
Unskilled Labor: \$18.49				
Average transactions per facility per year	Total Cost	Total Cost	Total Cost	Total Cost
Small company: 0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 936	Gov't: \$69	Gov't: \$52,222	Gov't: \$0	Gov't: \$178
	All Affected Cos.: \$69	All Affected Cos.: \$52,222	All Affected Cos.: \$0	All Affected Cos.: \$178

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### RECEIVING FACILITY FOR UNCONTAINERIZED GARBAGE (FRESH KILLS LANDFILL)

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
Cost Basis: Site		Cost Basis: Loadings		Cost Basis: Site	Cost Basis: Site
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		Labor Costs	Labor Costs	Labor Costs	Labor Costs
Total Companies: 0		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Small Companies: 0		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 1		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0
Total Sites: 1		Unit Cost:	Unit Cost per Year:	Unit Cost:	Unit Cost:
Small Co. Sites: 0		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 1		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
<u>Labor Rates</u>					
Management:	\$34.43	Percent Affected:	Percent Affected:	Percent Affected:	Percent Affected:
Supervisor:	\$27.90	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Skilled Labor:	\$37.60	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Unskilled Labor:	\$18.49	Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Average transactions per facility per year		Total Cost	Total Cost	Total Cost	Total Cost
Small company: 0		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 4680		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0



SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITY FOR UNCONTAINERIZED  
GARBAGE (FRESH KILLS LANDFILL)

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

Eq. Cost: \$0

Maint. Cost: \$0

Eq. Cost: \$17

Labor Costs

Labor Costs

Labor Costs

Hourly Rate: \$0

Hourly Rate: \$0

Hourly Rate: \$28

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Gov't: 0

Hrs-Gov't: 0

Hrs-Gov't: 2

Total Companies: 0

Small Companies: 0

Government Entities: 1

Total Sites: 1

Small Co. Sites: 0

Government Sites: 1

Unit Cost:

Small Co.: \$0

Unit Cost per Year:

Small Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Large Co.: \$0

Large Co.: \$0

Gov't: \$0

Gov't: \$0

Gov't: \$73

Labor Rates

Management: \$34.43

Supervisor: \$27.90

Skilled Labor: \$37.60

Unskilled Labor: \$18.49

Percent Affected:

Small Cos.: 0%

Percent Affected:

Small Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Large Cos.: 0%

Large Cos.: 0%

Gov't: 0%

Gov't: 0%

Gov't: 100%

Total Cost

Small Cos.: \$0

Total Cost

Small Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Large Cos.: \$0

Large Cos.: \$0

Gov't: \$0

Gov't: \$0

Gov't: \$73

All Affected Cos.: \$0

All Affected Cos.: \$0

All Affected Cos.: \$73

Average transactions per facility per year

Small company: 0

Large company: 0

Government: 4680

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### RECEIVING FACILITY FOR UNCONTAINERIZED GARBAGE (FRESH KILLS LANDFILL)

Regulatory Requirement:		237.4(d) Waste Deposit Records		237.4(e) O&M Manuals	
Action Required:		Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	One-time Cost
Cost Basis:		Site	Loadings	Site	Dept.
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$5
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 0		Hourly Rate: \$34	Hourly Rate: \$28	Hourly Rate: \$0	Hourly Rate: \$34
Small Companies: 0		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 1		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0.5	Hrs-Gov't: 1170	Hrs-Gov't: 0	Hrs-Gov't: 4
Total Sites: 1		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 0		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$5
Government Sites: 1		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$5
		Gov't: \$17	Gov't: \$32,639	Gov't: \$0	Gov't: \$143
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$34.43		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$27.90		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$37.60		Gov't: 100%	Gov't: 100%	Gov't: 100%	Gov't: 100%
Unskilled Labor: \$18.49					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 0		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 4680		Gov't: \$17	Gov't: \$32,639	Gov't: \$0	Gov't: \$143
		All Affected Cos.: \$17	All Affected Cos.: \$32,639	All Affected Cos.: \$0	All Affected Cos.: \$143

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM OIL & GAS PLATFORMS

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
		Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>	Cost Basis: <u>Site</u>	Cost Basis: <u>Site</u>
Small Company Definition: Independent Operation (Not Oil Company)		Eq. Cost: \$3,000	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
		Hourly Rate: \$22	Hourly Rate: \$18	Hourly Rate: \$0	Hourly Rate: \$0
Total Companies:	79	Hrs-Small: 1	Hrs-Small: 53	Hrs-Small: 0	Hrs-Small: 0
Small Companies:	51	Hrs-Large: 1	Hrs-Large: 53	Hrs-Large: 0	Hrs-Large: 0
Total Sites: 144		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites:	61	Small Co.: \$3,022	Small Co.: \$957	Small Co.: \$0	Small Co.: \$0
		Large Co.: \$3,022	Large Co.: \$957	Large Co.: \$0	Large Co.: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management:	\$30.54	Small Cos.: 75%	Small Cos.: 75%	Small Cos.: 0%	Small Cos.: 0%
Supervisor:	\$21.60	Large Cos.: 10%	Large Cos.: 10%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor:	\$25.07				
Unskilled Labor:	\$18.22				
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company:	210	Small Cos.: \$138,238	Small Cos.: \$43,768	Small Cos.: \$0	Small Cos.: \$0
Large company:	210	Large Cos.: \$25,079	Large Cos.: \$7,940	Large Cos.: \$0	Large Cos.: \$0
		All Affected Cos.: \$163,318	All Affected Cos.: \$51,708	All Affected Cos.: \$0	All Affected Cos.: \$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### RECEIVING FACILITIES FOR PACKAGED GARBAGE FROM OIL & GAS PLATFORMS

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

Annual Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: Independent  
Operation (Not Oil Company)

Eq. Cost: \$50  
Labor Costs

Maint. Cost: \$0  
Labor Costs

Eq. Cost: \$17  
Labor Costs

Hourly Rate: \$22  
Hrs—Small: 0.5  
Hrs—Large: 0.5

Hourly Rate: \$22  
Hrs—Small: 0  
Hrs—Large: 0

Hourly Rate: \$22  
Hrs—Small: 2  
Hrs—Large: 2

Total Companies: 79

Small Companies: 51

Total Sites: 144

Small Co. Sites: 61

Unit Cost:  
Small Co.: \$61  
Large Co.: \$61

Unit Cost per Year:  
Small Co.: \$0  
Large Co.: \$0

Unit Cost:  
Small Co.: \$60  
Large Co.: \$60

#### Labor Rates

Management: \$30.54

Supervisor: \$21.60

Skilled Labor: \$25.07

Unskilled Labor: \$18.22

Percent Affected:  
Small Cos.: 75%  
Large Cos.: 10%

Percent Affected:  
Small Cos.: 75%  
Large Cos.: 10%

Percent Affected:  
Small Cos.: 100%  
Large Cos.: 100%

Average transactions per facility per year

Small company: 210

Large company: 210

Total Cost  
Small Cos.: \$2,782  
Large Cos.: \$505  
All Affected Cos.:  
\$3,286

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
All Affected Cos.:  
\$0

Total Cost  
Small Cos.: \$3,673  
Large Cos.: \$4,997  
All Affected Cos.:  
\$8,670

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### RECEIVING FACILITIES FOR PACKAGED GARBAGE FROM OIL & GAS PLATFORMS

Regulatory Requirement:		237.4(d) Waste Deposit Records		237.4(e) O&M Manuals	
Action Required:		Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	One-time Cost
Cost Basis:		Site	Loadings	Site	Site
Small Company Definition: Independent Operation (Not Oil Company)		Eq. Cost: \$0 Labor Costs	Maint. Cost: \$0 Labor Costs	Eq. Cost: \$0 Labor Costs	Eq. Cost: \$5 Labor Costs
Hourly Rate:		\$31	\$22	\$18	\$22
Hrs-Small:		1	0	0	56
Hrs-Large:		1	0	0	28
Total Companies:	79				
Small Companies:	51				
Total Sites: 144		Unit Cost:	Unit Cost per Year:	Unit Cost:	Unit Cost:
Small Co. Sites: 61		Small Co.: \$31	Small Co.: \$0	Small Co.: \$0	Small Co.: \$1,215
		Large Co.: \$31	Large Co.: \$0	Large Co.: \$0	Large Co.: \$610
<u>Labor Rates</u>		Percent Affected:	Percent Affected:	Percent Affected:	Percent Affected:
Management: \$30.54		Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 90%
Supervisor: \$21.60		Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 70%
Skilled Labor: \$25.07					
Unskilled Labor: \$18.22					
Average transactions per facility per year		Total Cost	Total Cost	Total Cost	Total Cost
Small company: 210		Small Cos.: \$1,863	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$66,692
Large company: 210		Large Cos.: \$2,535	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$35,435
		All Affected Cos.: \$4,398	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$102,127

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM VESSELS ANCHORED  
OFFSHORE

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
		Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>	Cost Basis: <u>Site</u>	Cost Basis: <u>Site</u>
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 3		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Small Companies: 3		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 0		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0
Total Sites: 3		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 3		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 0		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$48.05		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$38.45		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$34.61		Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Unskilled Labor: \$25.63					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 189		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 0		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM VESSELS ANCHORED  
OFFSHORE

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

...

Total Companies: 3  
Small Companies: 3  
Government Entities: 0

Total Sites: 3  
Small Co. Sites: 3  
Government Sites: 0

Labor Rates

Management: \$48.05  
Supervisor: \$38.45  
Skilled Labor: \$34.61  
Unskilled Labor: \$25.63

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.:

\$0

Maint. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Unit Cost per Year:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.:

\$0

Eq. Cost: \$17  
Labor Costs  
Hourly Rate: \$38  
Hrs-Small: 2  
Hrs-Large: 2  
Hrs-Gov't: 2

Unit Cost:  
Small Co.: \$94  
Large Co.: \$94  
Gov't: \$94

Percent Affected:  
Small Cos.: 100%  
Large Cos.: 100%  
Gov't: 100%

Total Cost  
Small Cos.: \$282  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.:

\$282

Average transactions per facility per year  
Small company: 189  
Large company: 0  
Government: 0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM VESSELS ANCHORED  
OFFSHORE

Regulatory Requirement:	237.4(d) Waste Deposit Records		237.4(e) O&M Manuals	
Action Required:	Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:	One-time Cost	Annual Cost	One-time Cost	One-time Cost
	Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>	Cost Basis: <u>Site</u>	Cost Basis: <u>Site</u>
Small Company Definition: n/a	Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$5
...	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
	Hourly Rate: \$48	Hourly Rate: \$38	Hourly Rate: \$26	Hourly Rate: \$48
Total Companies: 3	Hrs-Small: 1	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 16
Small Companies: 3	Hrs-Large: 1	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 16
Government Entities 0	Hrs-Gov't: 1	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 16
Total Sites: 3	<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 3	Small Co.: \$48	Small Co.: \$0	Small Co.: \$0	Small Co.: \$774
Government Sites: 0	Large Co.: \$48	Large Co.: \$0	Large Co.: \$0	Large Co.: \$774
	Gov't: \$48	Gov't: \$0	Gov't: \$0	Gov't: \$769
<u>Labor Rates</u>				
Management: \$48.05	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Supervisor: \$38.45	Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%
Skilled Labor: \$34.61	Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%
Unskilled Labor: \$25.63	Gov't: 100%	Gov't: 100%	Gov't: 100%	Gov't: 100%
	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Average transactions per facility per year	Small Cos.: \$144	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$2,322
Small company: 189	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Large company: 0	Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
Government: 0	All Affected Cos.: \$144	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$2,322



# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### ISLANDS (SOURCES OF PACKAGED GARBAGE)

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
		Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>	Cost Basis: <u>Site</u>	Cost Basis: <u>Site</u>
Small Company Definition: Privately owned landing		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 6		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Small Companies: 6		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 3		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0
Total Sites: 13		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 6		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 7		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$45.16		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$36.14		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$32.52		Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Unskilled Labor: \$24.09					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 50		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 100		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### ISLANDS (SOURCES OF PACKAGED GARBAGE)

Regulatory Requirement:		237.4(c) Waste Deposit Cleanup and Notification					
Action Required:		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>	
Frequency of Cost:		<u>Annual Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>	
		Cost Basis:	<u>Site</u>	Cost Basis:	<u>Loadings</u>	Cost Basis:	<u>Site</u>
Small Company Definition: Privately owned landing		Eq. Cost:	\$50	Maint. Cost:	\$0	Eq. Cost:	\$17
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies:	6	Hourly Rate:	\$36	Hourly Rate:	\$0	Hourly Rate:	\$36
Small Companies:	6	Hrs - Small:	0.5	Hrs - Small:	0	Hrs - Small:	2
Government Entities	3	Hrs - Large:	0.5	Hrs - Large:	0	Hrs - Large:	2
		Hrs - Gov't:	0.5	Hrs - Gov't:	0	Hrs - Gov't:	2
Total Sites:	13	<u>Unit Cost:</u>		<u>Unit Cost per Year:</u>		<u>Unit Cost:</u>	
Small Co. Sites:	6	Small Co.:	\$68	Small Co.:	\$0	Small Co.:	\$89
Government Sites:	7	Large Co.:	\$68	Large Co.:	\$0	Large Co.:	\$89
		Gov't:	\$68	Gov't:	\$0	Gov't:	\$89
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$45.16	Small Cos.:	33%	Small Cos.:	0%	Small Cos.:	100%
Supervisor:	\$36.14	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	100%
Skilled Labor:	\$32.52	Gov't:	14%	Gov't:	0%	Gov't:	100%
Unskilled Labor:	\$24.09						
Average transactions per facility per year		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company:	50	Small Cos.:	\$136	Small Cos.:	\$0	Small Cos.:	\$536
Large company:	0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Government:	100	Gov't:	\$68	Gov't:	\$0	Gov't:	\$625
		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$204		\$0		\$1,161

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

ISLANDS (SOURCES OF PACKAGED GARBAGE)

Regulatory Requirement:		237.4(d) Waste Deposit Records				237.4(e) O&M Manuals			
Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)		Develop O&M Manual	
Frequency of Cost:		One-time Cost		Annual Cost		One-time Cost		One-time Cost	
		Cost Basis: Site		Cost Basis: Loadings		Cost Basis: Site		Cost Basis: Site	
Small Company Definition: Privately owned landing		Eq. Cost:	\$0	Maint. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$5
...		Labor Costs		Labor Costs		Labor Costs		Labor Costs	
Total Companies: 6		Hourly Rate:	\$45	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$45
Small Companies: 6		Hrs-Small:	1	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	16
Government Entities 3		Hrs-Large:	1	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	16
		Hrs-Gov't:	1	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	16
Total Sites: 13		Unit Cost:		Unit Cost per Year:		Unit Cost:		Unit Cost:	
Small Co. Sites: 6		Small Co.:	\$45	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$728
Government Sites: 7		Large Co.:	\$45	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$728
		Gov't:	\$45	Gov't:	\$0	Gov't:	\$0	Gov't:	\$758
Labor Rates		Percent Affected:		Percent Affected:		Percent Affected:		Percent Affected:	
Management: \$45.16		Small Cos.:	100%	Small Cos.:	100%	Small Cos.:	100%	Small Cos.:	100%
Supervisor: \$36.14		Large Cos.:	100%	Large Cos.:	100%	Large Cos.:	100%	Large Cos.:	100%
Skilled Labor: \$32.52		Gov't:	100%	Gov't:	100%	Gov't:	100%	Gov't:	100%
Unskilled Labor: \$24.09									
Average transactions per facility per year		Total Cost		Total Cost		Total Cost		Total Cost	
Small company: 50		Small Cos.:	\$271	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$4,366
Large company: 0		Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Government: 100		Gov't:	\$316	Gov't:	\$0	Gov't:	\$0	Gov't:	\$5,303
		All Affected Cos.:	\$587	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$9,669

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### RECEIVING FACILITIES FOR PACKAGED GARBAGE FROM ISLANDS

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
Cost Basis: Site		Cost Basis: Loadings		Cost Basis: Site	Cost Basis: Site
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 1		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Small Companies: 0		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 1		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0
Total Sites: 2		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 0		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 1		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$45.16		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$36.14		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$32.52		Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Unskilled Labor: \$24.09					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 560		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 0		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 364		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM ISLANDS

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

...

Total Companies: 1  
Small Companies: 0  
Government Entities: 1

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Maint. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Eq. Cost: \$17  
Labor Costs  
Hourly Rate: \$36  
Hrs-Small: 2  
Hrs-Large: 2  
Hrs-Gov't: 2

Total Sites: 2  
Small Co. Sites: 0  
Government Sites: 1

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost per Year:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost:  
Small Co.: \$89  
Large Co.: \$89  
Gov't: \$89

Labor Rates

Management: \$45.16  
Supervisor: \$36.14  
Skilled Labor: \$32.52  
Unskilled Labor: \$24.09

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 100%  
Large Cos.: 100%  
Gov't: 100%

Average transactions per facility per year  
Small company: 560  
Large company: 0  
Government: 364

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$89  
Gov't: \$89  
All Affected Cos.: \$179

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

RECEIVING FACILITIES FOR PACKAGED  
GARBAGE FROM ISLANDS

Regulatory Requirement:		237.4(d) Waste Deposit Records				237.4(e) O&M Manuals	
Action Required:		Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)		Develop O&M Manual	
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost		One-time Cost	
Cost Basis:		Site	Loadings	Site		Site	
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0		Eq. Cost: \$5	
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies: 1		Hourly Rate: \$45	Hourly Rate: \$0	Hourly Rate: \$0		Hourly Rate: \$45	
Small Companies: 0		Hrs-Small: 1	Hrs-Small: 0	Hrs-Small: 0		Hrs-Small: 16	
Government Entities: 1		Hrs-Large: 1	Hrs-Large: 0	Hrs-Large: 0		Hrs-Large: 16	
		Hrs-Gov't: 1	Hrs-Gov't: 0	Hrs-Gov't: 0		Hrs-Gov't: 16	
Total Sites: 2		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Sites: 0		Small Co.: \$45	Small Co.: \$0	Small Co.: \$0		Small Co.: \$728	
Government Sites: 1		Large Co.: \$45	Large Co.: \$0	Large Co.: \$0		Large Co.: \$728	
		Gov't: \$45	Gov't: \$0	Gov't: \$0		Gov't: \$728	
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management: \$45.16		Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%		Small Cos.: 100%	
Supervisor: \$36.14		Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%		Large Cos.: 100%	
Skilled Labor: \$32.52		Gov't: 100%	Gov't: 100%	Gov't: 100%		Gov't: 100%	
Unskilled Labor: \$24.09							
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>		<u>Total Cost</u>	
Small company: 560		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0		Small Cos.: \$0	
Large company: 0		Large Cos.: \$45	Large Cos.: \$0	Large Cos.: \$0		Large Cos.: \$728	
Government: 364		Gov't: \$45	Gov't: \$0	Gov't: \$0		Gov't: \$728	
		All Affected Cos.: \$90	All Affected Cos.: \$0	All Affected Cos.: \$0		All Affected Cos.: \$1,455	

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

## SEWAGE SLUDGE SOURCES

Regulatory Requirement:	237.4(a) Performance Standard				237.4(b) Fixed Lighting			
	Action Required:				Action Required:			
	Waste Containment Structures & Equipment Purchase, Deployment & Maintenance				Purchase and Installation		Operation and Maintenance	
	Frequency of Cost:		Frequency of Cost:		Frequency of Cost:		Frequency of Cost:	
	One-time Cost		Annual Cost		One-time Cost		Annual Cost	
	Cost Basis:	Site	Cost Basis:	Loadings	Cost Basis:	Site	Cost Basis:	Site
Small Company Definition: n/a	Eq. Cost:	\$0	Maint. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0
...	<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0
Total Companies:	Hrs—Small:	0	Hrs—Small:	0	Hrs—Small:	0	Hrs—Small:	0
Small Companies:	Hrs—Large:	0	Hrs—Large:	0	Hrs—Large:	0	Hrs—Large:	0
Government Entities	Hrs—Gov't:	0	Hrs—Gov't:	0	Hrs—Gov't:	0	Hrs—Gov't:	0
Total Sites:	<u>Unit Cost:</u>		<u>Unit Cost per Year:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Sites:	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0
Government Sites:	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0
	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
<u>Labor Rates</u>								
Management:	<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Supervisor:	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%
Skilled Labor:	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%
Unskilled Labor:	Gov't:	0%	Gov't:	0%	Gov't:	0%	Gov't:	0%
Average transactions per facility per year	<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company:	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0
Large company:	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Government:	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

## SEWAGE SLUDGE SOURCES

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

...

Total Companies: 0

Small Companies: 0

Government Entities 4

Total Sites: 7

Small Co. Sites: 0

Government Sites: 7

### Labor Rates

Management: \$34.43

Supervisor: \$27.90

Skilled Labor: \$20.86

Unskilled Labor: \$18.49

Eq. Cost: \$0

### Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Gov't: 0

### Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

### Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Maint. Cost: \$0

### Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Gov't: 0

### Unit Cost per Year:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

### Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Eq. Cost: \$17

### Labor Costs

Hourly Rate: \$28

Hrs-Small: 2

Hrs-Large: 2

Hrs-Gov't: 2

### Unit Cost:

Small Co.: \$73

Large Co.: \$73

Gov't: \$73

### Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Gov't: 100%

### Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$510

All Affected Cos.:

\$510

Average transactions per facility per year

Small company: 0

Large company: 0

Government: 1356



SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

SHORESIDE FACILITIES

Segment:

SEWAGE SLUDGE SOURCES

Regulatory Requirement:		237.4(d) Waste Deposit Records				237.4(e) O&M Manuals			
Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)		Develop O&M Manual	
Frequency of Cost:		One-time Cost		Annual Cost		Annual Cost		One-time Cost	
Cost Basis:		Site		Loadings		Site		Site	
Small Company Definition: n/a		Eq. Cost: \$0		Maint. Cost: \$0		Eq. Cost: \$0		Eq. Cost: \$5	
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Hourly Rate:		\$34		Hourly Rate: \$28		Hourly Rate: \$18		Hourly Rate: \$34	
Total Companies:	0	Hrs-Small: 16		Hrs-Small: 3.4		Hrs-Small: 2		Hrs-Small: 4	
Small Companies:	0	Hrs-Large: 16		Hrs-Large: 3.4		Hrs-Large: 2		Hrs-Large: 4	
Government Entities	4	Hrs-Gov't: 16		Hrs-Gov't: 3.4		Hrs-Gov't: 2		Hrs-Gov't: 4	
Total Sites: 7		<u>Unit Cost:</u>		<u>Unit Cost per Year:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Sites: 0		Small Co.: \$551		Small Co.: \$95		Small Co.: \$37		Small Co.: \$143	
Government Sites: 7		Large Co.: \$551		Large Co.: \$95		Large Co.: \$37		Large Co.: \$143	
		Gov't: \$551		Gov't: \$95		Gov't: \$37		Gov't: \$173	
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management: \$34.43		Small Cos.: 0%		Small Cos.: 0%		Small Cos.: 0%		Small Cos.: 100%	
Supervisor: \$27.90		Large Cos.: 0%		Large Cos.: 0%		Large Cos.: 0%		Large Cos.: 100%	
Skilled Labor: \$20.86		Gov't: 14%		Gov't: 14%		Gov't: 14%		Gov't: 100%	
Unskilled Labor: \$18.49									
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average transactions per facility per year		Small Cos.: \$0		Small Cos.: \$0		Small Cos.: \$0		Small Cos.: \$0	
Small company: 0		Large Cos.: \$0		Large Cos.: \$0		Large Cos.: \$0		Large Cos.: \$0	
Large company: 0		Gov't: \$551		Gov't: \$95		Gov't: \$37		Gov't: \$1,209	
Government: 1356		All Affected Cos.: \$551		All Affected Cos.: \$95		All Affected Cos.: \$37		All Affected Cos.: \$1,209	

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

## SEWAGE SLUDGE RECEIVING FACILITIES

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
		Cost Basis: <u>Site</u>	Cost Basis: <u>Loadings</u>	Cost Basis: <u>Site</u>	Cost Basis: <u>Site</u>
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 4		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Small Companies: 0		Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0	Hrs-Small: 0
Government Entities: 2		Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0	Hrs-Large: 0
		Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0	Hrs-Gov't: 0
Total Sites: 6		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 0		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Government Sites: 2		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$34.43		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$27.90		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$20.86		Gov't: 0%	Gov't: 0%	Gov't: 0%	Gov't: 0%
Unskilled Labor: \$18.49					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 1582		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 1582		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
Government: 1582		Gov't: \$0	Gov't: \$0	Gov't: \$0	Gov't: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### SEWAGE SLUDGE RECEIVING FACILITIES

Regulatory Requirement:

237.4(c) Waste Deposit Cleanup and Notification

Action Required:

Purchase Equipment

Cleanup of Deposits and  
Operation and Maintenance

Post Telephone Number  
of Oversight Authority

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: n/a

...

Total Companies: 4

Small Companies: 0

Government Entities: 2

Total Sites: 6

Small Co. Sites: 0

Government Sites: 2

#### Labor Rates

Management: \$34.43

Supervisor: \$27.90

Skilled Labor: \$20.86

Unskilled Labor: \$18.49

Eq. Cost: \$0

#### Labor Costs

Hourly Rate: \$0

Hrs - Small: 0

Hrs - Large: 0

Hrs - Gov't: 0

#### Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

#### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

#### Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Maint. Cost: \$0

#### Labor Costs

Hourly Rate: \$0

Hrs - Small: 0

Hrs - Large: 0

Hrs - Gov't: 0

#### Unit Cost per Year:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

#### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

#### Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Eq. Cost: \$17

#### Labor Costs

Hourly Rate: \$28

Hrs - Small: 2

Hrs - Large: 2

Hrs - Gov't: 2

#### Unit Cost:

Small Co.: \$73

Large Co.: \$73

Gov't: \$73

#### Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Gov't: 100%

#### Total Cost

Small Cos.: \$0

Large Cos.: \$291

Gov't: \$146

All Affected Cos.: \$437

Average transactions per facility per year

Small company: 1582

Large company: 1582

Government: 1582

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### SEWAGE SLUDGE RECEIVING FACILITIES

Regulatory Requirement:		237.4(d) Waste Deposit Records			237.4(e) O&M Manuals
Action Required:		Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:		One-time Cost	Annual Cost	Annual Cost	One-time Cost
Cost Basis: Site		Cost Basis: Loadings	Cost Basis: Site	Cost Basis: Site	Cost Basis: Site
Small Company Definition: n/a		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$5
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Total Companies: 4		Hourly Rate: \$34	Hourly Rate: \$28	Hourly Rate: \$28	Hourly Rate: \$34
Small Companies: 0		Hrs-Small: 1	Hrs-Small: 4.0	Hrs-Small: 1	Hrs-Small: 4
Government Entities: 2		Hrs-Large: 1	Hrs-Large: 4.0	Hrs-Large: 1	Hrs-Large: 4
		Hrs-Gov't: 1	Hrs-Gov't: 4.0	Hrs-Gov't: 1	Hrs-Gov't: 4
Total Sites: 6		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 0		Small Co.: \$34	Small Co.: \$110	Small Co.: \$28	Small Co.: \$143
Government Sites: 2		Large Co.: \$34	Large Co.: \$110	Large Co.: \$28	Large Co.: \$143
		Gov't: \$34	Gov't: \$110	Gov't: \$28	Gov't: \$148
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$34.43		Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%	Small Cos.: 100%
Supervisor: \$27.90		Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%	Large Cos.: 100%
Skilled Labor: \$20.86		Gov't: 100%	Gov't: 100%	Gov't: 100%	Gov't: 100%
Unskilled Labor: \$18.49					
Average transactions per facility per year		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Small company: 1582		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 1582		Large Cos.: \$138	Large Cos.: \$441	Large Cos.: \$112	Large Cos.: \$571
Government: 1582		Gov't: \$69	Gov't: \$221	Gov't: \$56	Gov't: \$295
		All Affected Cos.: \$207	All Affected Cos.: \$662	All Affected Cos.: \$167	All Affected Cos.: \$866

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### DRILLING MUD RECEIVING FACILITIES (OIL FIELD TREATMENT FACILITIES)

Regulatory Requirement:		237.4(a) Performance Standard		237.4(b) Fixed Lighting	
Action Required:		Waste Containment Structures & Equipment Purchase, Deployment & Maintenance		Purchase and Installation	Operation and Maintenance
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	Annual Cost
Cost Basis: Site		Cost Basis: Loadings		Cost Basis: Site	Cost Basis: Site
Small Company Definition: < 3 facilities		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Hourly Rate: \$0		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0
Hrs—Small: 0		Hrs—Small: 0	Hrs—Small: 0	Hrs—Small: 0	Hrs—Small: 0
Hrs—Large: 0		Hrs—Large: 0	Hrs—Large: 0	Hrs—Large: 0	Hrs—Large: 0
Total Companies: 29		Unit Cost:		Unit Cost:	
Small Companies: 23		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
Total Sites: 50		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
Small Co. Sites: 25		Unit Cost per Year:		Unit Cost:	
		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$0
		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$0
<u>Labor Rates</u>		Percent Affected:		Percent Affected:	
Management: \$30.54		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%
Supervisor: \$21.60		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%
Skilled Labor: \$25.07					
Unskilled Labor: \$18.22					
Average transactions per facility per year		Total Cost		Total Cost	
Small company: 270		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0
Large company: 270		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0
		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### DRILLING MUD RECEIVING FACILITIES (OIL FIELD TREATMENT FACILITIES)

Regulatory Requirement:

#### 237.4(c) Waste Deposit Cleanup and Notification

Action Required:

#### Purchase Equipment

#### Cleanup of Deposits and Operation and Maintenance

#### Post Telephone Number of Oversight Authority

Frequency of Cost:

#### One-time Cost

#### Annual Cost

#### One-time Cost

Cost Basis: Site

Cost Basis: Loadings

Cost Basis: Site

Small Company Definition: < 3 facilities

...

Total Companies: 29

Small Companies: 23

Eq. Cost: \$0

#### Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Maint. Cost: \$0

#### Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Eq. Cost: \$17

#### Labor Costs

Hourly Rate: \$22

Hrs-Small: 2

Hrs-Large: 2

Total Sites: 50

Small Co. Sites: 25

#### Unit Cost:

Small Co.: \$0

Large Co.: \$0

#### Unit Cost per Year:

Small Co.: \$0

Large Co.: \$0

#### Unit Cost:

Small Co.: \$60

Large Co.: \$60

#### Labor Rates

Management: \$30.54

Supervisor: \$21.60

Skilled Labor: \$25.07

Unskilled Labor: \$18.22

#### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

#### Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

#### Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Average transactions per facility per year

Small company: 270

Large company: 270

#### Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

#### Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

#### Total Cost

Small Cos.: \$1,505

Large Cos.: \$1,505

All Affected Cos.: \$3,010

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## SHORESIDE FACILITIES

Segment:

### DRILLING MUD RECEIVING FACILITIES (OIL FIELD TREATMENT FACILITIES)

Regulatory Requirement:		237.4(d) Waste Deposit Records		237.4(e) O&M Manuals	
Action Required:		Develop Waste Deposit Record Form	Record Waste Deposits	Maintain Waste Deposit Records (File Space)	Develop O&M Manual
Frequency of Cost:		One-time Cost	Annual Cost	One-time Cost	One-time Cost
Cost Basis: Site		Cost Basis: Loadings	Cost Basis: Site	Cost Basis: Site	Cost Basis: Site
Small Company Definition: < 3 facilities		Eq. Cost: \$0	Maint. Cost: \$0	Eq. Cost: \$0	Eq. Cost: \$5
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
Hourly Rate: \$0		Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$0	Hourly Rate: \$31
Hrs—Small: 0		Hrs—Small: 0	Hrs—Small: 0	Hrs—Small: 0	Hrs—Small: 2
Hrs—Large: 0		Hrs—Large: 0	Hrs—Large: 0	Hrs—Large: 0	Hrs—Large: 2
Total Companies: 29					
Small Companies: 23					
Total Sites: 50		<u>Unit Cost:</u>	<u>Unit Cost per Year:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Sites: 25		Small Co.: \$0	Small Co.: \$0	Small Co.: \$0	Small Co.: \$66
		Large Co.: \$0	Large Co.: \$0	Large Co.: \$0	Large Co.: \$66
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management: \$30.54		Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 0%	Small Cos.: 100%
Supervisor: \$21.60		Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 0%	Large Cos.: 100%
Skilled Labor: \$25.07					
Unskilled Labor: \$18.22					
<u>Total Cost</u>		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Average transactions per facility per year		Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$0	Small Cos.: \$1,652
Small company: 270		Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$0	Large Cos.: \$1,652
Large company: 270		All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$0	All Affected Cos.: \$3,304

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

BARGES FOR UNCONTAINERIZED GARBAGE  
(NYC DOS)

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:

Implement and  
Follow Procedures

Leachate Containment and Collection

Label and Seal  
Waste Ports and Valves

Frequency of Cost:

Annual Cost

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Vessel

Cost Basis: Vessel

Cost Basis: Loadings

Cost Basis: Vessel

Small Company Definition: n/a

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Labor Costs

Labor Costs

Labor Costs

Labor Costs

Hourly Rate: \$0

Hourly Rate: \$0

Hourly Rate: \$0

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Gov't: 0

Hrs-Gov't: 0

Hrs-Gov't: 0

Hrs-Gov't: 0

Total Companies: 0

Small Companies: 0

Government Entities: 1

Total Vessels: 104

Small Co. Vessels: 0

Gov't Vessels: 104

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Gov't: \$0

Labor Rates

Management: \$36.61

Supervisor: \$29.90

Skilled Labor: \$27.90

Unskilled Labor: \$21.91

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 0%

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.:

\$0

Total approximate barge loads per year

Small company: 0

Large company: 0

Government: 7080



SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**BARGES FOR UNCONTAINERIZED GARBAGE**  
(NYC DOS)

Regulatory Requirement:		<u>237.5 (b) O&amp;M Manuals</u>		<u>237.5(c) Waste Deposit Cleanup and Notification</u>					
Action Required:		<u>Develop O&amp;M Manual</u>		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>	
Frequency of Cost:		<u>One-time Cost</u>		<u>One-time Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>	
Cost Basis:		<u>Company</u>		Cost Basis: <u>Tow</u>		Cost Basis: <u>Loadings</u>		Cost Basis: <u>Tow</u>	
Small Company Definition:	n/a	Eq. Cost:	\$5	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$17.00
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
		Hourly Rate:	\$37	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$30
Total Companies:	0	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0
Small Companies:	0	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0
Government Entities	1	Hrs-Gov't:	4	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	2
Total Vessels:	104	<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels:	0	Small Co.:	\$5	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$17
Gov't Vessels:	104	Large Co.:	\$5	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$17
		Gov't:	\$666	Gov't:	\$0	Gov't:	\$0	Gov't:	\$77
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$36.61	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%
Supervisor:	\$29.90	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%
Skilled Labor:	\$27.90	Gov't:	100%	Gov't:	0%	Gov't:	0%	Gov't:	100%
Unskilled Labor:	\$21.91								
<u>Total approximate barge loads per year</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company:	0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0
Large company:	0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Government:	7080	Gov't:	\$666	Gov't:	\$0	Gov't:	\$0	Gov't:	\$7,986
		All Affected Cos.:	\$666	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$7,986

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

BARGES FOR UNCONTAINERIZED GARBAGE  
(NYC DOS)

Regulatory Requirement:

237.5(d) Waste Deposit Records

Action Required:

Develop Waste Deposit  
Record Form

Record Waste Deposits

Maintain Waste Deposit  
Records (File Space)

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Company  
(see Marine Transfer Stations)

Cost Basis: Tows

Cost Basis: Company

Small Company Definition: n/a

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Labor Costs

Labor Costs

Labor Costs

Hourly Rate: \$0

Hourly Rate: \$30

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Gov't: 0

Hrs-Gov't: 0.25

Hrs-Gov't: 0

Total Companies: 0

Small Companies: 0

Government Entities 1

Total Vessels: 104

Small Co. Vessels: 0

Gov't Vessels: 104

Unit Cost:

Small Co.: \$0

Unit Cost:

Small Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Large Co.: \$0

Large Co.: \$0

Gov't: \$0

Gov't: \$7

Gov't: \$0

Labor Rates

Management: \$36.61

Supervisor: \$29.90

Skilled Labor: \$27.90

Unskilled Labor: \$21.91

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 100%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 100%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Gov't: 100%

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$17,639

All Affected Cos.: \$17,639

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Total approximate barge loads per year

Small company: 0

Large company: 0

Government: 7080

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:  
SUPPLY BOATS (OSVs) TRANSPORTING MUDS &  
PACKAGED GARBAGE FROM OFFSHORE RIGS

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:		Implement and Follow Procedures		Leachate Containment and Collection		Label and Seal Waste Ports and Valves	
Frequency of Cost:		Annual Cost		One-time Cost		Annual Cost	
		Cost Basis: Vessel		Cost Basis: Vessel		Cost Basis: Loadings	Cost Basis: Vessel
Small Company Definition: 2 or fewer vessels		Eq. Cost: \$45		Eq. Cost: \$0		Eq. Cost: \$0	Eq. Cost: \$0
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	<u>Labor Costs</u>
		Hourly Rate: \$29		Hourly Rate: \$0		Hourly Rate: \$0	Hourly Rate: \$0
Total Companies:	370	Hrs-Small: 50		Hrs-Small: 0		Hrs-Small: 0	Hrs-Small: 0
Small Companies:	308	Hrs-Large: 0		Hrs-Large: 0		Hrs-Large: 0	Hrs-Large: 0
Total Vessels: 758		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Vessels: 360		Small Co.: \$1,483		Small Co.: \$0		Small Co.: \$0	Small Co.: \$0
		Large Co.: \$45		Large Co.: \$0		Large Co.: \$0	Large Co.: \$0
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management:	\$37.62	Small Cos.: 30.0%		Small Cos.: 0%		Small Cos.: 0%	Small Cos.: 0%
Supervisor:	\$37.22	Large Cos.: 0%		Large Cos.: 0%		Large Cos.: 0%	Large Cos.: 0%
Skilled Labor:	\$28.76						
Unskilled Labor:	\$16.41						
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	<u>Total Cost</u>
Average voyages per vessel per year		Small Cos.: \$160,186		Small Cos.: \$0		Small Cos.: \$0	Small Cos.: \$0
Small company: 100		Large Cos.: \$0		Large Cos.: \$0		Large Cos.: \$0	Large Cos.: \$0
Large company: 100		All Affected Cos.: \$160,186		All Affected Cos.: \$0		All Affected Cos.: \$0	All Affected Cos.: \$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

SUPPLY BOATS (OSVs) TRANSPORTING MUDS &  
PACKAGED GARBAGE FROM OFFSHORE RIGS

Regulatory Requirement:		237.5 (b) O&M Manuals		237.5(c) Waste Deposit Cleanup and Notification					
Action Required:		<u>Develop O&amp;M Manual</u>		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>	
Frequency of Cost:		<u>One-time Cost</u>		<u>Annual Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>	
Cost Basis:		<u>Company</u>		<u>Vessel</u>		<u>Voyages</u>		<u>Vessel</u>	
Small Company Definition: 2 or fewer vessels		Eq. Cost:	\$5	Eq. Cost:	\$50	Eq. Cost:	\$0	Eq. Cost:	\$17
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies: 370		Hourly Rate:	\$37	Hourly Rate:	\$37	Hourly Rate:	\$29	Hourly Rate:	\$37
Small Companies: 308		Hrs-Small:	28	Hrs-Small:	0.5	Hrs-Small:	0.5	Hrs-Small:	2
		Hrs-Large:	28	Hrs-Large:	0.5	Hrs-Large:	0.5	Hrs-Large:	2
Total Vessels: 758		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels: 360		Small Co.:	\$1,047	Small Co.:	\$69	Small Co.:	\$14	Small Co.:	\$91
		Large Co.:	\$1,047	Large Co.:	\$69	Large Co.:	\$14	Large Co.:	\$91
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$37.82	Small Cos.:	100%	Small Cos.:	30%	Small Cos.:	100%	Small Cos.:	100%
Supervisor:	\$37.22	Large Cos.:	100%	Large Cos.:	0%	Large Cos.:	100%	Large Cos.:	100%
Skilled Labor:	\$28.76								
Unskilled Labor:	\$16.41								
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average voyages per vessel per year		Small Cos.:	\$376,945	Small Cos.:	\$7,410	Small Cos.:	\$5,178	Small Cos.:	\$32,916
Small company: 100		Large Cos.:	\$416,734	Large Cos.:	\$0	Large Cos.:	\$5,724	Large Cos.:	\$36,391
Large company: 100		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$793,678		\$7,410		\$10,902		\$69,307

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:  
SUPPLY BOATS (OSVs) TRANSPORTING MUDS &  
PACKAGED GARBAGE FROM OFFSHORE RIGS

Regulatory Requirement:		237.5(d) Waste Deposit Records					
Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)	
Frequency of Cost:		One-time Cost		Annual Cost		One-time Cost	
		Cost Basis: <u>Company</u>		Cost Basis: <u>Voyages</u>		Cost Basis: <u>Company</u>	
Small Company Definition: 2 or fewer vessels		Eq. Cost: \$0		Eq. Cost: \$0		Eq. Cost: \$0	
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies: 370		Hourly Rate: \$38		Hourly Rate: \$37		Hourly Rate: \$0	
Small Companies: 308		Hrs-Small: 1		Hrs-Small: 0.25		Hrs-Small: 0	
		Hrs-Large: 1		Hrs-Large: 0.25		Hrs-Large: 0	
Total Vessels: 758		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels: 360		Small Co.: \$38		Small Co.: \$9		Small Co.: \$0	
		Large Co.: \$38		Large Co.: \$9		Large Co.: \$0	
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management: \$37.82		Small Cos.: 100%		Small Cos.: 30%		Small Cos.: 100%	
Supervisor: \$37.22		Large Cos.: 100%		Large Cos.: 0%		Large Cos.: 100%	
Skilled Labor: \$28.76							
Unskilled Labor: \$16.41							
Average voyages per vessel per year		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company: 100		Small Cos.: \$13,616		Small Cos.: \$1,005		Small Cos.: \$0	
Large company: 100		Large Cos.: \$15,054		Large Cos.: \$0		Large Cos.: \$0	
		All Affected Cos.: \$28,670		All Affected Cos.: \$1,005		All Affected Cos.: \$0	

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**VESSELS TRANSPORTING PACKAGED GARBAGE  
FROM INLAND PLATFORMS AND RIGS**

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:

Implement and  
Follow Procedures

Leachate Containment and Collection

Label and Seal  
Waste Ports and Valves

Frequency of Cost:

Annual Cost

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Vessel

Cost Basis: Vessel

Cost Basis: Voyages

Cost Basis: Vessel

Small Company Definition: Fewer than 10 barges

...

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Labor Costs

Labor Costs

Labor Costs

Labor Costs

Hourly Rate: \$0

Hourly Rate: \$0

Hourly Rate: \$0

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Small: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Hrs-Large: 0

Total Companies: 13

Small Companies: 11

Total Vessels: 66

Small Co. Vessels: 33

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

**Labor Rates**

Management: \$37.82

Supervisor: \$37.22

Skilled Labor: \$28.76

Unskilled Labor: \$16.41

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Average voyages per vessel per year

Small company: 150

Large company: 150

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**VESSELS TRANSPORTING PACKAGED GARBAGE  
FROM INLAND PLATFORMS AND RIGS**

Regulatory Requirement:		<u>237.5 (b) O&amp;M Manuals</u>		<u>237.5(c) Waste Deposit Cleanup and Notification</u>	
Action Required:		<u>Develop O&amp;M Manual</u>	<u>Purchase Equipment</u>	<u>Cleanup of Deposits and Operation and Maintenance</u>	<u>Post Telephone Number of Oversight Authority</u>
Frequency of Cost:		<u>One-time Cost</u>	<u>Annual Cost</u>	<u>Annual Cost</u>	<u>One-time Cost</u>
Cost Basis:		<u>Company</u>	<u>Vessel</u>	<u>Voyages</u>	<u>Vessel</u>
Small Company Definition:	Fewer than 10 barges	Eq. Cost: \$5	Eq. Cost: \$50	Eq. Cost: \$0	Eq. Cost: \$17
...		<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>	<u>Labor Costs</u>
		Hourly Rate: \$37	Hourly Rate: \$37	Hourly Rate: \$16	Hourly Rate: \$37
Total Companies:	13	Hrs-Small: 28	Hrs-Small: 0.5	Hrs-Small: 0.5	Hrs-Small: 2
Small Companies:	11	Hrs-Large: 28	Hrs-Large: 0.5	Hrs-Large: 0.5	Hrs-Large: 2
Total Vessels:	66	<u>Unit Cost:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>	<u>Unit Cost:</u>
Small Co. Vessels:	33	Small Co.: \$1,057	Small Co.: \$69	Small Co.: \$8	Small Co.: \$91
		Large Co.: \$1,072	Large Co.: \$69	Large Co.: \$8	Large Co.: \$91
<u>Labor Rates</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>	<u>Percent Affected:</u>
Management:	\$37.82	Small Cos.: 100%	Small Cos.: 25%	Small Cos.: 25%	Small Cos.: 100%
Supervisor:	\$37.22	Large Cos.: 100%	Large Cos.: 25%	Large Cos.: 25%	Large Cos.: 100%
Skilled Labor:	\$28.76				
Unskilled Labor:	\$16.41				
<u>Total Cost</u>		<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>	<u>Total Cost</u>
Average voyages per vessel per year		Small Cos.: \$11,628	Small Cos.: \$566	Small Cos.: \$68	Small Cos.: \$3,017
Small company:	150	Large Cos.: \$2,144	Large Cos.: \$566	Large Cos.: \$68	Large Cos.: \$3,017
Large company:	150	All Affected Cos.: \$13,772	All Affected Cos.: \$1,132	All Affected Cos.: \$135	All Affected Cos.: \$6,035

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

VESSELS TRANSPORTING PACKAGED GARBAGE  
FROM INLAND PLATFORMS AND RIGS

Regulatory Requirement:		237.5(d) Waste Deposit Records					
Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)	
Frequency of Cost:		One-time Cost		Annual Cost		One-time Cost	
Cost Basis:		Company		Voyages		Company	
Small Company Definition: Fewer than 10 barges		Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies: 13		Hourly Rate:	\$38	Hourly Rate:	\$37	Hourly Rate:	\$0
Small Companies: 11		Hrs - Small:	1	Hrs - Small:	0.25	Hrs - Small:	0
		Hrs - Large:	1	Hrs - Large:	0.25	Hrs - Large:	0
Total Vessels: 66		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels: 33		Small Co.:	\$38	Small Co.:	\$9	Small Co.:	\$0
		Large Co.:	\$38	Large Co.:	\$9	Large Co.:	\$0
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$37.82	Small Cos.:	100%	Small Cos.:	25%	Small Cos.:	100%
Supervisor:	\$37.22	Large Cos.:	100%	Large Cos.:	0%	Large Cos.:	100%
Skilled Labor:	\$28.76						
Unskilled Labor:	\$16.41						
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average voyages per vessel per year		Small Cos.:	\$416	Small Cos.:	\$77	Small Cos.:	\$0
Small company: 150		Large Cos.:	\$76	Large Cos.:	\$0	Large Cos.:	\$0
Large company: 150		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$492		\$77		\$0



SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**VESSELS TRANSPORTING GARBAGE  
FROM VESSELS ANCHORED OFFSHORE**

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:		Implement and Follow Procedures		Leachate Containment and Collection		Label and Seal Waste Ports and Valves			
Frequency of Cost:		Annual Cost		One-time Cost		Annual Cost		One-time Cost	
		Cost Basis:	Vessel	Cost Basis:	Vessel	Cost Basis:	Loadings	Cost Basis:	Vessel
Small Company Definition: fewer than 6 vessels		Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0
...		Labor Costs		Labor Costs		Labor Costs		Labor Costs	
		Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0
Total Companies:	4	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0
Small Companies:	4	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0
Government Entities	0	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	0
Total Vessels:		Unit Cost:		Unit Cost:		Unit Cost:		Unit Cost:	
Small Co. Vessels:	4	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0
Gov't Vessels:	0	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0
		Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
<u>Labor Rates</u>		Percent Affected:		Percent Affected:		Percent Affected:		Percent Affected:	
Management:	\$30.90	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%
Supervisor:	\$24.72	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%
Skilled Labor:	\$22.25	Gov't:	0%	Gov't:	0%	Gov't:	0%	Gov't:	0%
Unskilled Labor:	\$16.48								
		Total Cost		Total Cost		Total Cost		Total Cost	
Average loadings/unloadings per vessel per year		Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0
Small company:	142	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Large company:	142	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
Government:	0	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

VESSELS TRANSPORTING GARBAGE  
FROM VESSELS ANCHORED OFFSHORE

Regulatory Requirement:		237.5 (b) O&M Manuals		237.5(c) Waste Deposit Cleanup and Notification			
Action Required:		Develop O&M Manual		Purchase Equipment	Cleanup of Deposits and Operation and Maintenance	Post Telephone Number of Oversight Authority	
Frequency of Cost:		One-time Cost		One-time Cost	Annual Cost	One-time Cost	
		Cost Basis: Company		Cost Basis: Vessel		Cost Basis: Loadings	Cost Basis: Vessel
Small Company Definition: fewer than 6 vessels		Eq. Cost: \$5		Eq. Cost: \$0		Eq. Cost: \$0	Eq. Cost: \$17
...		Labor Costs		Labor Costs		Labor Costs	Labor Costs
		Hourly Rate: \$25		Hourly Rate: \$0		Hourly Rate: \$0	Hourly Rate: \$25
Total Companies:	4	Hrs-Small: 28		Hrs-Small: 0		Hrs-Small: 0	Hrs-Small: 2
Small Companies:	4	Hrs-Large: 28		Hrs-Large: 0		Hrs-Large: 0	Hrs-Large: 2
Government Entities	0	Hrs-Gov't: 28		Hrs-Gov't: 0		Hrs-Gov't: 0	Hrs-Gov't: 2
Total Vessels: 4		Unit Cost:		Unit Cost:		Unit Cost:	Unit Cost:
Small Co. Vessels:	4	Small Co.: \$697		Small Co.: \$0		Small Co.: \$0	Small Co.: \$66
Gov't Vessels:	0	Large Co.: \$697		Large Co.: \$0		Large Co.: \$0	Large Co.: \$66
		Gov't: \$692		Gov't: \$0		Gov't: \$0	Gov't: \$66
<u>Labor Rates</u>							
Management:	\$30.90	Percent Affected:		Percent Affected:		Percent Affected:	Percent Affected:
Supervisor:	\$24.72	Small Cos.: 100%		Small Cos.: 0%		Small Cos.: 0%	Small Cos.: 100%
Skilled Labor:	\$22.25	Large Cos.: 100%		Large Cos.: 0%		Large Cos.: 0%	Large Cos.: 100%
Unskilled Labor:	\$16.48	Gov't: 100%		Gov't: 0%		Gov't: 0%	Gov't: 100%
		Total Cost		Total Cost		Total Cost	Total Cost
Average loadings/unloadings per vessel per year		Small Cos.: \$2,789		Small Cos.: \$0		Small Cos.: \$0	Small Cos.: \$266
Small company:	142	Large Cos.: \$0		Large Cos.: \$0		Large Cos.: \$0	Large Cos.: \$0
Large company:	142	Gov't: \$0		Gov't: \$0		Gov't: \$0	Gov't: \$0
Government:	0	All Affected Cos.: \$2,789		All Affected Cos.: \$0		All Affected Cos.: \$0	All Affected Cos.: \$266

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## WASTE TRANSPORT VESSELS

Segment:

### VESSELS TRANSPORTING GARBAGE FROM VESSELS ANCHORED OFFSHORE

Regulatory Requirement:

237.5(d) Waste Deposit Records

Action Required:

Develop Waste Deposit  
Record Form

Record Waste Deposits

Maintain Waste Deposit  
Records (File Space)

Frequency of Cost:

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Company

Cost Basis: Loadings

Cost Basis: Company

Small Company Definition: fewer than 6 vessels

Eq. Cost: \$0

Eq. Cost: \$0

Eq. Cost: \$0

Labor Costs

Labor Costs

Labor Costs

Hourly Rate: \$31

Hourly Rate: \$25

Hourly Rate: \$16

Hrs-Small: 1

Hrs-Small: 0

Hrs-Small: 0

Hrs-Large: 1

Hrs-Large: 0

Hrs-Large: 0

Hrs-Gov't: 1

Hrs-Gov't: 0

Hrs-Gov't: 0

Total Companies: 4

Small Companies: 4

Government Entities: 0

Total Vessels: 4

Small Co. Vessels: 4

Gov't Vessels: 0

Unit Cost:

Small Co.: \$31

Unit Cost:

Small Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$31

Large Co.: \$0

Large Co.: \$0

Gov't: \$31

Gov't: \$0

Gov't: \$0

#### Labor Rates

Management: \$30.90

Supervisor: \$24.72

Skilled Labor: \$22.25

Unskilled Labor: \$16.48

Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Gov't: 100%

Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Gov't: 100%

Percent Affected:

Small Cos.: 100%

Large Cos.: 100%

Gov't: 100%

Total Cost

Small Cos.: \$124

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$124

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

Gov't: \$0

All Affected Cos.: \$0

Average loadings/unloadings per vessel per year

Small company: 142

Large company: 142

Government: 0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

VESSELS TRANSPORTING PACKAGED  
GARBAGE FROM ISLANDS

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:		Implement and Follow Procedures		Leachate Containment and Collection		Label and Seal Waste Ports and Valves			
Frequency of Cost:		Annual Cost		One-time Cost		Annual Cost		One-time Cost	
		Cost Basis:	Vessel	Cost Basis:	Vessel	Cost Basis:	Loadings	Cost Basis:	Vessel
Small Company Definition: fewer than 10 vessels		Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0
...		Labor Costs		Labor Costs		Labor Costs		Labor Costs	
		Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$0
Total Companies:	2	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	0
Small Companies:	2	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	0
Government Entities	1	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	0
Total Vessels:		Unit Cost:		Unit Cost:		Unit Cost:		Unit Cost:	
Small Co. Vessels:	4	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$0
Gov't Vessels:	1	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$0
		Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$35.23	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	0%
Supervisor:	\$28.19	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	0%
Skilled Labor:	\$25.37	Gov't:	0%	Gov't:	0%	Gov't:	0%	Gov't:	0%
Unskilled Labor:	\$18.79								
		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average loadings/unloadings per vessel per year		Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0
Small company:	140	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0
Large company:	0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0	Gov't:	\$0
Government:	364	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0	All Affected Cos.:	\$0

# SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

## WASTE TRANSPORT VESSELS

Segment:

### VESSELS TRANSPORTING PACKAGED GARBAGE FROM ISLANDS

Regulatory Requirement:		<u>237.5 (b) O&amp;M Manuals</u>		<u>237.5(c) Waste Deposit Cleanup and Notification</u>						
Action Required:		<u>Develop O&amp;M Manual</u>		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>		
Frequency of Cost:		<u>One-time Cost</u>		<u>One-time Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>		
Cost Basis:		<u>Company</u>		Cost Basis: <u>Vessel</u>		Cost Basis: <u>Loadings</u>		Cost Basis: <u>Vessel</u>		
Small Company Definition: fewer than 10 vessels		Eq. Cost:	\$5	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$17	
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		
		Hourly Rate:	\$28	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$28	
Total Companies:	2	Hrs-Small:	28	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	2	
Small Companies:	2	Hrs-Large:	28	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	2	
Government Entities	1	Hrs-Gov't:	28	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	2	
Total Vessels:		5		Total Vessels:		5		Total Vessels:		5
Small Co. Vessels:	4	Unit Cost:		Unit Cost:		Unit Cost:		Unit Cost:		
Gov't Vessels:	1	Small Co.:	\$794	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$73	
		Large Co.:	\$794	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$73	
		Gov't:	\$794	Gov't:	\$0	Gov't:	\$0	Gov't:	\$73	
<u>Labor Rates</u>										
Management:	\$35.23	Percent Affected:		Percent Affected:		Percent Affected:		Percent Affected:		
Supervisor:	\$28.19	Small Cos.:	100%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	100%	
Skilled Labor:	\$25.37	Large Cos.:	100%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	100%	
Unskilled Labor:	\$18.79	Gov't:	100%	Gov't:	0%	Gov't:	0%	Gov't:	100%	
Average loadings/unloadings per vessel per year		Total Cost		Total Cost		Total Cost		Total Cost		
Small company:	140	Small Cos.:	\$1,589	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$294	
Large company:	0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$73	
Government:	364	Gov't:	\$794	Gov't:	\$0	Gov't:	\$0	Gov't:	\$73	
		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:		
			\$2,383		\$0		\$0		\$440	

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

VESSELS TRANSPORTING PACKAGED  
GARBAGE FROM ISLANDS

Regulatory Requirement:		237.5(d) Waste Deposit Records					
Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)	
Frequency of Cost:		One-time Cost		Annual Cost		One-time Cost	
		Cost Basis:	Company	Cost Basis:	Loadings	Cost Basis:	Company
Small Company Definition: fewer than 10 vessels		Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$0
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
		Hourly Rate:	\$35	Hourly Rate:	\$0	Hourly Rate:	\$0
Total Companies:	2	Hrs - Small:	1	Hrs - Small:	0	Hrs - Small:	0
Small Companies:	2	Hrs - Large:	1	Hrs - Large:	0	Hrs - Large:	0
Government Entities	1	Hrs - Gov't:	1	Hrs - Gov't:	0	Hrs - Gov't:	0
Total Vessels:		Unit Cost:		Unit Cost:		Unit Cost:	
Small Co. Vessels:	4	Small Co.:	\$35	Small Co.:	\$0	Small Co.:	\$0
Gov't Vessels:	1	Large Co.:	\$35	Large Co.:	\$0	Large Co.:	\$0
		Gov't:	\$35	Gov't:	\$0	Gov't:	\$0
<u>Labor Rates</u>		Percent Affected:		Percent Affected:		Percent Affected:	
Management:	\$35.23	Small Cos.:	100%	Small Cos.:	100%	Small Cos.:	100%
Supervisor:	\$28.19	Large Cos.:	100%	Large Cos.:	100%	Large Cos.:	100%
Skilled Labor:	\$25.37	Gov't:	100%	Gov't:	100%	Gov't:	100%
Unskilled Labor:	\$18.79						
Average loadings/unloadings per vessel per year		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company:	140	Small Cos.:	\$141	Small Cos.:	\$0	Small Cos.:	\$0
Large company:	0	Large Cos.:	\$35	Large Cos.:	\$0	Large Cos.:	\$0
Government:	364	Gov't:	\$35	Gov't:	\$0	Gov't:	\$0
		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$211		\$0		\$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**BARGES TRANSPORTING SEWAGE SLUDGE**

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:

Implement and  
Follow Procedures

Leachate Containment and Collection

Label and Seal  
Waste Ports and Valves

Frequency of Cost:

Annual Cost

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Vessel

Cost Basis: Vessel

Cost Basis: Loadings

Cost Basis: Vessel

Small Company Definition: n/a

...

Total Companies: 3  
Small Companies: 0  
Government Entities: 1

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Eq. Cost: \$0  
Labor Costs  
Hourly Rate: \$0  
Hrs-Small: 0  
Hrs-Large: 0  
Hrs-Gov't: 0

Total Vessels: 13  
Small Co. Vessels: 0  
Gov't Vessels: 1

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Unit Cost:  
Small Co.: \$0  
Large Co.: \$0  
Gov't: \$0

Labor Rates

Management: \$36.61  
Supervisor: \$29.90  
Skilled Labor: \$27.90  
Unskilled Labor: \$21.91

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Percent Affected:  
Small Cos.: 0%  
Large Cos.: 0%  
Gov't: 0%

Average loadings/unloadings per vessel per year  
Small company: 0  
Large company: 730  
Government: 730

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

Total Cost  
Small Cos.: \$0  
Large Cos.: \$0  
Gov't: \$0  
All Affected Cos.: \$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

BARGES TRANSPORTING SEWAGE SLUDGE

Regulatory Requirement:		237.5 (b) O&M Manuals		237.5(c) Waste Deposit Cleanup and Notification					
Action Required:		<u>Develop O&amp;M Manual</u>		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>	
Frequency of Cost:		<u>One-time Cost</u>		<u>One-time Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>	
		Cost Basis:	<u>Company</u>	Cost Basis:	<u>Vessel</u>	Cost Basis:	<u>Loadings</u>	Cost Basis:	<u>Vessel</u>
Small Company Definition:	n/a	Eq. Cost:	\$5	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$17
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
		Hourly Rate:	\$30	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$30
Total Companies:	3	Hrs-Small:	28	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	2
Small Companies:	0	Hrs-Large:	28	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	2
Government Entities	1	Hrs-Gov't:	28	Hrs-Gov't:	0	Hrs-Gov't:	0	Hrs-Gov't:	2
Total Vessels:	13	<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels:	0	Small Co.:	\$842	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$77
Gov't Vessels:	1	Large Co.:	\$842	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$77
		Gov't:	\$842	Gov't:	\$0	Gov't:	\$0	Gov't:	\$77
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$36.61	Small Cos.:	100%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	100%
Supervisor:	\$29.90	Large Cos.:	100%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	100%
Skilled Labor:	\$27.90	Gov't:	100%	Gov't:	0%	Gov't:	0%	Gov't:	100%
Unskilled Labor:	\$21.91								
		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average loadings/unloadings per vessel per year		Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$0
Small company:	0	Large Cos.:	\$2,526	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$998
Large company:	730	Gov't:	\$842	Gov't:	\$0	Gov't:	\$0	Gov't:	\$77
Government:	730	All Affected Cos.:		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$3,368		\$0		\$0		\$1,075



SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**BARGES TRANSPORTING SEWAGE SLUDGE**

Regulatory Requirement:

**237.5(d) Waste Deposit Records**

Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits	Maintain Waste Deposit Records (File Space)	
Frequency of Cost:		One-time Cost		Annual Cost	One-time Cost	
Cost Basis:		Company		Loadings	Company	
Small Company Definition: n/a		Eq. Cost: \$0		Eq. Cost: \$0	Eq. Cost: \$0	
...		<u>Labor Costs</u>		<u>Labor Costs</u>	<u>Labor Costs</u>	
Total Companies: 3		Hourly Rate: \$37		Hourly Rate: \$30	Hourly Rate: \$0	
Small Companies: 0		Hrs-Small: 1		Hrs-Small: 1.75	Hrs-Small: 0	
Government Entities: 1		Hrs-Large: 1		Hrs-Large: 1.75	Hrs-Large: 0	
		Hrs-Gov't: 1		Hrs-Gov't: 1.75	Hrs-Gov't: 0	
Total Vessels: 13		<u>Unit Cost:</u>		<u>Unit Cost:</u>	<u>Unit Cost:</u>	
Small Co. Vessels: 0		Small Co.: \$37		Small Co.: \$52	Small Co.: \$0	
Gov't Vessels: 1		Large Co.: \$37		Large Co.: \$52	Large Co.: \$0	
		Gov't: \$37		Gov't: \$52	Gov't: \$0	
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	<u>Percent Affected:</u>	
Management: \$36.61		Small Cos.: 100%		Small Cos.: 100%	Small Cos.: 100%	
Supervisor: \$29.90		Large Cos.: 100%		Large Cos.: 100%	Large Cos.: 100%	
Skilled Labor: \$27.90		Gov't: 100%		Gov't: 100%	Gov't: 100%	
Unskilled Labor: \$21.91						
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	<u>Total Cost</u>	
Average loadings/unloadings per vessel per year		Small Cos.: \$0		Small Cos.: \$0	Small Cos.: \$0	
Small company: 0		Large Cos.: \$476		Large Cos.: \$680	Large Cos.: \$0	
Large company: 730		Gov't: \$37		Gov't: \$52	Gov't: \$0	
Government: 730		All Affected Cos.: \$513		All Affected Cos.: \$732	All Affected Cos.: \$0	

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

DECK SHALE BARGES AND  
HOPPER BARGES HANDLING DRILLING MUDS

Regulatory Requirement:

237.5(a) Performance Standard

Action Required:

Implement and  
Follow Procedures

Leachate Containment and Collection

Label and Seal  
Waste Ports and Valves

Frequency of Cost:

Annual Cost

One-time Cost

Annual Cost

One-time Cost

Cost Basis: Vessel

Cost Basis: Vessel

Cost Basis: Loadings

Cost Basis: Vessel

Small Company Definition: Fewer than 10 barges

...

Total Companies: 18

Small Companies: 15

Eq. Cost: \$0

Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Eq. Cost: \$0

Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Eq. Cost: \$0

Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Eq. Cost: \$0

Labor Costs

Hourly Rate: \$0

Hrs-Small: 0

Hrs-Large: 0

Total Vessels: 126

Small Co. Vessels: 44

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Unit Cost:

Small Co.: \$0

Large Co.: \$0

Labor Rates

Management: \$37.82

Supervisor: \$37.22

Skilled Labor: \$28.76

Unskilled Labor: \$16.41

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Percent Affected:

Small Cos.: 0%

Large Cos.: 0%

Average transactions per vessel per year

Small company: 100

Large company: 100

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

Total Cost

Small Cos.: \$0

Large Cos.: \$0

All Affected Cos.: \$0

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

**WASTE TRANSPORT VESSELS**

Segment:

**DECK SHALE BARGES AND  
HOPPER BARGES HANDLING DRILLING MUDS**

Regulatory Requirement:		<u>237.5 (b) O&amp;M Manuals</u>		<u>237.5(c) Waste Deposit Cleanup and Notification</u>					
Action Required:		<u>Develop O&amp;M Manual</u>		<u>Purchase Equipment</u>		<u>Cleanup of Deposits and Operation and Maintenance</u>		<u>Post Telephone Number of Oversight Authority</u>	
Frequency of Cost:		<u>One-time Cost</u>		<u>One-time Cost</u>		<u>Annual Cost</u>		<u>One-time Cost</u>	
		Cost Basis:	<u>Company</u>	Cost Basis:	<u>Vessel</u>	Cost Basis:	<u>Loadings</u>	Cost Basis:	<u>Vessel</u>
Small Company Definition: Fewer than 10 barges		Eq. Cost:	\$5	Eq. Cost:	\$0	Eq. Cost:	\$0	Eq. Cost:	\$17
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
		Hourly Rate:	\$37	Hourly Rate:	\$0	Hourly Rate:	\$0	Hourly Rate:	\$37
Total Companies:	18	Hrs-Small:	28	Hrs-Small:	0	Hrs-Small:	0	Hrs-Small:	2
Small Companies:	15	Hrs-Large:	28	Hrs-Large:	0	Hrs-Large:	0	Hrs-Large:	2
Total Vessels:		Unit Cost:		Unit Cost:		Unit Cost:		Unit Cost:	
Small Co. Vessels:		Small Co.:	\$1,047	Small Co.:	\$0	Small Co.:	\$0	Small Co.:	\$91
		Large Co.:	\$1,047	Large Co.:	\$0	Large Co.:	\$0	Large Co.:	\$91
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management:	\$37.82	Small Cos.:	100%	Small Cos.:	0%	Small Cos.:	0%	Small Cos.:	100%
Supervisor:	\$37.22	Large Cos.:	100%	Large Cos.:	0%	Large Cos.:	0%	Large Cos.:	100%
Skilled Labor:	\$28.76								
Unskilled Labor:	\$16.41								
<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Average transactions per vessel per year		Small Cos.:	\$46,069	Small Cos.:	\$0	Small Cos.:	\$0	Small Cos.:	\$4,023
Small company:		Large Cos.:	\$85,857	Large Cos.:	\$0	Large Cos.:	\$0	Large Cos.:	\$7,497
Large company:		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
			\$131,926		\$0		\$0		\$11,520

SHORE PROTECTION ACT REGULATORY IMPACT ANALYSIS: COSTS BY SEGMENT AND ITEM

WASTE TRANSPORT VESSELS

Segment:

DECK SHALE BARGES AND  
HOPPER BARGES HANDLING DRILLING MUDS

Regulatory Requirement:

237.5(d) Waste Deposit Records

Action Required:		Develop Waste Deposit Record Form		Record Waste Deposits		Maintain Waste Deposit Records (File Space)	
Frequency of Cost:		One-time Cost		Annual Cost		One-time Cost	
Cost Basis:		Company		Loadings		Company	
Small Company Definition: Fewer than 10 barges		Eq. Cost: \$0		Eq. Cost: \$0		Eq. Cost: \$0	
...		<u>Labor Costs</u>		<u>Labor Costs</u>		<u>Labor Costs</u>	
Total Companies: 18		Hourly Rate: \$38		Hourly Rate: \$37		Hourly Rate: \$0	
Small Companies: 15		Hrs-Small: 1		Hrs-Small: 2.5		Hrs-Small: 0	
		Hrs-Large: 1		Hrs-Large: 2.5		Hrs-Large: 0	
Total Vessels: 126		<u>Unit Cost:</u>		<u>Unit Cost:</u>		<u>Unit Cost:</u>	
Small Co. Vessels: 44		Small Co.: \$38		Small Co.: \$93		Small Co.: \$0	
		Large Co.: \$38		Large Co.: \$93		Large Co.: \$0	
<u>Labor Rates</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>		<u>Percent Affected:</u>	
Management: \$37.82		Small Cos.: 100%		Small Cos.: 100%		Small Cos.: 100%	
Supervisor: \$37.22		Large Cos.: 100%		Large Cos.: 100%		Large Cos.: 100%	
Skilled Labor: \$28.76							
Unskilled Labor: \$16.41							
Average transactions per vessel per year		<u>Total Cost</u>		<u>Total Cost</u>		<u>Total Cost</u>	
Small company: 100		Small Cos.: \$567		Small Cos.: \$4,094		Small Cos.: \$0	
Large company: 100		Large Cos.: \$113		Large Cos.: \$7,629		Large Cos.: \$0	
		All Affected Cos.:		All Affected Cos.:		All Affected Cos.:	
		\$681		\$11,723		\$0	

**Appendix B:**

**Draft Shore Protection Act Regulations  
(June 29, 1993)**

**U.S. Environmental Protection Agency  
Office of Wetlands, Oceans and Watersheds  
Oceans and Coastal Protection Division  
Marine Pollution Control Branch**

# DRAFT

## REGULATION

June 29, 1993

Part 237 Waste handling practices for vessels and waste transfer stations.

It is proposed that 40 CFR Part 237 read as follows:

AUTHORITY: Shore Protection Act of 1988 (section 4001), 33 U.S.C. 2600.

### 237.1. Purpose.

The purpose of this part is to: (a) establish requirements under the Shore Protection Act, Title IV of Public law 100-688 part 237, for vessels, waste sources, and receiving facilities to assure that commercial and/or municipal waste is not deposited into coastal waters during loading, offloading and transport; (b) require the submission and adoption by the owner or operator of a vessel or a waste loading or unloading facility of an Operation and Maintenance (O & M) manual identifying procedures to be used to prevent, report, and cleanup any deposit of municipal or commercial waste into coastal waters, including record keeping requirements; (c) require tracking systems where and when the Administrator determines they are necessary to assure adequate compliance with laws preventing the deposit of municipal or commercial waste into coastal waters.

### 237.2. Applicability.

(a) Except as provided by paragraph (b) of this section, this part applies to each owner or operator of:

1) a vessel transporting municipal or commercial waste in

1 coastal waters;

2 2) a waste source as defined in section 237.3(j);

3 3) a receiving facility as defined in section 237.3(f).

4 (b) This part does not apply to the owner or operator of a  
5 public vessel.

6 (c) The requirements of the Shore Protection Act (SPA) and  
7 this regulation apply in addition to, and not in lieu of, all  
8 applicable requirements under any other statutes.

9 237.3. Definitions.

10 As used in this part-

11 (a) "Administrator" means the Administrator of the Environmental  
12 Protection Agency or person designated by the Administrator.

13 (b) "Coastal waters" means-

14 (1) the territorial sea of the United States;

15 (2) the Great Lakes and their connecting waters;

16 (3) the marine and estuarine waters of the United States up  
17 to the head of tidal influence;

18 (4) the Exclusive Economic Zone as established by  
19 Presidential Proclamation Number 5030, dated March 10, 1983.

20 Note: The Exclusive Economic Zone extends from the baseline  
21 of the territorial sea of the United States seaward 200  
22 nautical miles.

1 (c) "Municipal or commercial waste" means solid waste (as  
2 defined in section 1004 of the Solid Waste Disposal Act (42  
3 U.S.C. 6903)) except--  
4 (1) solid waste identified and listed under section 3001 of  
5 the Solid Waste Disposal Act (42 U.S.C. 6921);  
6 (2) waste generated by the vessel during normal operations;  
7 (3) debris solely from construction activities;  
8 (4) sewage sludge subject to regulation under title I of the  
9 Marine Protection, Research, and Sanctuaries Act of 1972 (33  
10 U.S.C. 1401 et seq.);  
11 (5) dredged or fill material subject to regulation under  
12 title I of the Marine Protection, Research and Sanctuaries  
13 Act of 1972 (33 U.S.C. 1401 et seq.), the Federal Water  
14 Pollution Control Act (33 U.S.C. 1251 et seq.), or the  
15 Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 401  
16 et seq.).

17 (d) "Person" means an individual, trust, firm, joint stock  
18 company, corporation (including a government corporation),  
19 partnership, association, state, municipality, commission,  
20 political subdivision of a state, or any interstate body.

21 (e) "Public vessel" means a vessel that--  
22 (1) is owned, or demise chartered, and operated by the  
23 United States Government or a government of a foreign  
24 country; and



1           (2) is not engaged in commercial service.

2       (f) "Receiving facility" means a facility, vessel or operation  
3       within the territorial seas of the U.S. which receives  
4       municipal or commercial waste unloaded from a vessel.

5       (g) "SPA" means the Shore Protection Act, Title IV of Public law  
6       100-688 section 4001, USC 2600.

7       (h) "Vessel" means every description of watercraft or other  
8       artificial contrivance used, or capable of being used, as a  
9       means of transportation on water.

10       "Vessel transporting municipal and commercial waste"  
11       includes, in the case of a non-self-propelled vessel, both  
12       the non-self-propelled vessel and the towing vessel.

13       (i) "Waste deposit" means any municipal or commercial waste  
14       originating from a waste source, receiving facility, or  
15       vessel that is deposited into a water body.

16       (j) "Waste source" means a vessel, or a facility located within  
17       the territorial seas of the U.S. from which municipal or  
18       commercial waste is loaded onto a vessel, including any  
19       rolling stock or motor vehicles from which that waste is  
20       directly loaded.

1 (k) "Waste transfer station" means a waste source or receiving  
2 facility as defined 237.3(j) & (f).

3 237.4. Specific waste handling practices for waste sources and  
4 receiving facilities during loading and offloading.

5 (a) Performance standard. The owner or operator of a waste  
6 source or receiving facility shall have containment, diversionary  
7 structures, ~~and~~ equipment, consistent with the requirements of  
8 this subsection, to contain and remove any municipal or  
9 commercial waste deposited in coastal waters during loading and  
10 offloading. The owner or operator of a waste source or receiving  
11 facility shall use containment ~~or~~ diversionary structures or  
12 equipment in a manner the minimizes deposit of municipal or  
13 commercial waste into coastal waters.

14 Appropriate methods to meet this performance standard must  
15 be identified in the O & M manual.

16 (b) Fixed lighting. The owner or operator of a waste  
17 source or receiving facility shall use fixed lighting, that  
18 adequately illuminates the loading and offloading point and the  
19 surrounding area, when conducting loading and offloading  
20 operations between sunset and sunrise.

21 (c) Waste Deposit Cleanup. The owner or operator of a  
22 waste source or receiving facility shall have means in place to

1 promptly (before the waste has a chance to disperse), and  
2 thoroughly, cleanup municipal or commercial wastes deposited into  
3 coastal waters during loading and offloading. The methods for  
4 cleanup of the waste must be identified in the facility's O & M  
5 manual.

6 The methods used may include sweeper boats to sweep up solid  
7 wastes deposited, manned boats with nets to remove waste, booms  
8 or other equipment to recover waste deposited near shore, and/or  
9 shoreline cleanup crews and equipment to clear shore areas of  
10 waste which could be refloated by tides or deposited in the  
11 coastal waters by winds or high water resulting from a storm.

12 Cleanup of deposited waste shall insure that all waste which  
13 clearly resulted from, or may have resulted from waste loading  
14 operations is removed from the water and the shoreline prior to  
15 the first high tide following the completion of any loading  
16 operation.

17 Cleanup resources shall be in continuous operation, or on standby  
18 at the loading facility for loading operations which take place  
19 during an ebb tide.

20 The owner or operator shall have the oversight authority  
21 telephone number(s) visibly and legibly displayed at the transfer  
22 station The owner or operator shall promptly notify the

1 designated oversight authority if the owner or operator is unable  
2 to meet the requirements of these regulations. Failure to report  
3 such an event will result in a civil penalty established by the  
4 USCG.

5 (d) Waste Deposit Records.

6 (1) The owner or operator of a municipal or commercial  
7 waste receiving facility, or waste source shall maintain a daily  
8 record of waste deposited into the coastal waters. These records  
9 must include information pertaining to the:

- 10 i. Date of deposit;
- 11 ii. Time of day;
- 12 iii. Estimated amount of waste deposited and amount  
13 recovered;
- 14 iv. Description of the type of waste deposited;
- 15 v. Name of the vessel being loaded/offloaded;
- 16 vi. Cause of deposit;
- 17 vii. Method and time of cleanup.

18 (2) The owner or operator shall retain these records for no  
19 less than three years and must submit these records to the  
20 Administrator or the Secretary upon request within five working  
21 days.

22 (e) Operation and Maintenance Manuals.

23 (1) Each receiving facility or waste source shall develop  
24 an O & M manual 180 days after the regulation is promulgated.  
25 The manual shall include:

- i. Record keeping procedures;
- ii. A description of the basic O & M standards adopted by the facility or waste source to implement the requirements of section 237.4(~~4~~)(~~1~~):
- iii. Identification of the parties responsible for implementing the manual;
- iv. A description of the procedures the owner or operator will use to prevent, report, and cleanup any deposit of municipal or commercial waste into coastal waters consistent with §237.4(C).

(2) At the request of the Administrator, the receiving facility or waste source shall submit or provide the O & M manual to the Administrator for review or approval within ten working days. Upon disapproval by the Administrator of an O & M manual, the receiving facility or waste source shall make the corrections indicated by the Administrator and resubmit the manual for review within 90 days. Operations may continue during this review process. Failure to make the recommended corrections to the O & M manual within 180 days would be a violation of this regulation. The O & M manual shall comply with the format and guidelines established in the SPA "Municipal and Commercial waste handling technical guidance document" (O & M manuals section) (appendix A).

(3) The O & M manual shall be made available and accessible to all employees on site.

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237.5 Specific waste handling practices for Vessels During

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Transport.

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(a) Performance Standard. The owner or operator of a vessel which transports municipal or commercial waste must secure the waste to assure that it will not be deposited into coastal waters during transport. At a minimum the owner or operator must ensure that:

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i. Waste is not loaded in excess of the vessel's design capacity; nor in a manner inconsistent with the instructions in the vessel's O & M manual.

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ii. All waste shall be contained in a way that minimizes deposition into United States coastal waters. e.g. open barges hauling solid waste shall be covered during transport with netting or other means adequate to ensure that waste will not be deposited into the water. Another example is that an open barge hauling liquid waste shall be loaded such that waste will not be deposited into the water.

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iii. The vessel hauling solid waste shall have and use a drainage containment system for collection of leaching liquids.

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The following will be used in combination with the requirements identified above:

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iv. All ports and valves which may be used for flushing or

1           discharging waste or waste residue from the hull or  
2           tanks must be labelled and the valve seals shall be  
3           placed on the valves.

4           (b) Operation and Maintenance. The owner or operator shall  
5           develop an O & M manual and have it available on the vessel. The  
6           O & M manual must contain instructions on loading the vessel and  
7           securing the waste, including loading and securing diagrams in  
8           accordance with 237.5(a). The O & M manual shall comply with the  
9           format and guidelines established in Appendix A for vessel O & M  
10          manuals. The O & M manual shall be made available and accessible  
11          to all employees on the vessel.

12          (c) Waste Deposit Cleanup. The owner or operator of a vessel  
13          shall promptly (before the waste has a chance to disperse), and  
14          thoroughly, remove any waste deposited into the coastal waters  
15          during transport. The owner or operator of the vessel shall have  
16          the capability on board to cleanup the spill or to call a support  
17          unit to cleanup the spill. The owner or operator shall have the  
18          support unit telephone number(s) and the oversight authority  
19          telephone number(s) located on the vessel in a way that these  
20          numbers are visible and legible to the owner or operator and  
21          vessel crew. The owner or operator or crew of a vessel shall  
22          promptly notify the designated oversight authority if the owner  
23          or operator is unable to meet the requirement under 237.5(b).  
24          Failure to report such an event will result in a civil penalty  
25          established by the USCG.

1           (d) Waste Deposit Records.

2           (1) The owner or operator of a vessel shall maintain a  
3 record of all waste deposited into the coastal waters. These  
4 records must include information pertaining to the:

- 5           i. Date of deposit;  
6           ii. Time of day;  
7           iii. Estimated amount of waste deposited and amount  
8           recovered;  
9           iv. Description of the type of waste deposited;  
10          v. Name of the vessel the waste is deposited from;  
11          vi. Cause of deposit;  
12          vii. Method and time of cleanup.

13          (2) The owner or operator shall retain these records for no  
14 less than three years and must submit these records to the  
15 Administrator or the Secretary upon request within five working  
16 days. The owner or operator shall promptly notify the designated  
17 oversight authority if the owner or operator is unable to meet  
18 the requirement under 237.5(c). Failure to report such an event  
19 will result in a civil penalty established by the USCG.

20          (e) Tracking Systems.

21          (1) The Administrator may require owners and operators of  
22 vessels to operate a vessel tracking system on each vessel or as  
23 the case may be systems when two or more vessels are involved. In  
24 determining whether to require a tracking system the  
25 Administrator will consider the following:

- 26          i. The owner/operator's history of compliance with SPA;



- 1           ii. The owner/operator's history of compliance with other  
2           statutes intended to prevent deposit of municipal or  
3           commercial waste, as defined in the regulation, into  
4           coastal waters;
- 5           iii. The characteristics and amounts of waste transported;
- 6           iv. The feasibility of installing a specific kind of  
7           tracking system. Manifest systems are for the purposes  
8           of the regulation considered feasible for all vessels.

9           Where an owner or operator of a vessel has a record of  
10          violations of SPA or other statutes intended to prevent deposit  
11          of municipal or commercial waste, the Administrator has the  
12          option to recommend that a tracking system be installed.  
13          Such systems shall be implemented or installed and placed in  
14          operation within 30 days of the receipt of a notice from the  
15          Administrator.

16   237.6    Permit review procedures.

17           (a) Permit review procedures will be followed as identified  
18          in 33 CFR Part 140.

19           (b) This regulation provides permit denial grounds.

20   237.7    Enforcement.

21           (a) Violation of any provision of these regulations could  
22          lead to the imposition of civil penalties.

23           (b) Enforcement procedures are outlined in the MOU between  
24          USCG and EPA.

**Appendix C:**

**Implementation of the Shore Protection Act of 1988  
(33 CFR Part 151)**

U.S. EPA Headquarters Library  
Mail code 3201  
1200 Pennsylvania Avenue NW  
Washington DC 20460

Shore Protection

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Wednesday  
May 24, 1989

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**Part III**

**Department of  
Transportation**

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**Coast Guard**

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**33 CFR Part 151**

**Implementation of the Shore Protection  
Act of 1988; Interim Rule with Request  
for Comments**

## DEPARTMENT OF TRANSPORTATION

## Coast Guard

## 33 CFR Part 151

[CGD 89-014]

RIN 2115-AD23

## Implementation of the Shore Protection Act of 1988

AGENCY: Coast Guard, DOT.

ACTION: Interim rule with request for comments.

**SUMMARY:** The Coast Guard is publishing an interim rule to implement permitting the numbering requirements of the Shore Protection Act of 1988. The Coast Guard is issuing these requirements as an interim rule because the Shore Protection Act requires that permits be in place 240 days after the Act's enactment, which will occur on July 15, 1989. By issuing an interim rule, the Coast Guard and the public will be able to meet this mandated deadline.

**DATES:** *Effective Date:* 1. May 24, 1989.

2. The Coast Guard will accept comments on this interim rule until August 24, 1989.

**ADDRESSES:** Comments should be submitted to the Executive Secretary, Marine Safety Council (G-LRA-2/3600), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001 between the hours of 8:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be delivered to and will be available for copying at that address. The Categorical Exclusion from the requirements of the National Environmental Policy Act (NEPA) is available for inspection and copying at the same address.

Persons wishing to comment on the information collection requirements should submit their comments to: Office of Regulatory Policy, Office of Management and Budget, 726 Jackson Place NW., Washington, DC 20503, ATTN: Desk Officer, U.S. Coast Guard. **FOR FURTHER INFORMATION CONTACT:** Lieutenant James H. McDowell, Office of Marine Safety, Security and Environmental Protection (G-MPS-3) (202) 267-0491, between 7:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

**SUPPLEMENTARY INFORMATION:** The public is invited to participate in this rulemaking by submitting written views, data or arguments. Comments should include the name and address of the person making them, identify this interim rule (CGD 89-014) and the specific section of the interim rule to which each comment applies, and give the reasons for the comment. If an

acknowledgment of receipt is desired, a stamped, self-addressed postcard should be enclosed.

All comments received before the expiration date of the comment period will be considered before any action is taken on this interim rule. They will also be considered in preparing the notice of proposed rulemaking for the second regulatory project described below in the paragraphs under Regulatory Approach.

## Drafting Information

The principal persons involved in drafting this rule are: Lieutenant James H. McDowell, Project Manager, and Stanley M. Colby, Project Counsel, Office of Chief Counsel.

## Discussion of the Interim Rule

## I. Background

On November 18, 1988, Congress enacted the Shore Protection Act (33 U.S.C. 2501 *et seq.*), hereafter referred to as the Act, to help prevent trash, medical debris and other unsightly and potential harmful materials from being deposited into the coastal waters of the United States as a result of sloppy waste handling procedures. The Conference Report on the Ocean Dumping Ban Act (Report 100-1090) stated that landfills and attendant barging operations are a major source of floatable waste in harbor areas. The report concluded that this type of waste has fouled the beaches of this country over the last two summers, reducing the quality of coastal waters, endangering the health of humans, marine mammals, waterfowl and fish, and causing severe decline in coastal economies dependent upon tourism and recreational uses.

Section 4103(a)(1) of the Act requires owners or operators of waste sources, vessels transporting waste and waste reception facilities to take reasonable steps to minimize the amount of municipal or commercial waste deposited into coastal waters during vessel loading and unloading operations and during vessel transportation from a waste source to receiving facilities. The Act prohibits vessels from transporting municipal and commercial waste unless they have a permit and display a number of other prescribed marking 240 days after enactment, which will occur on July 15, 1989. The Act also outlines provisions for enforcing these requirements.

The Environmental Protection Agency (EPA) and the Department of Transportation (DOT) have been assigned responsibility for implementing the provisions of the Act. DOT is responsible for issuing permits,

prescribing the number or marking which vessels must display, and enforcing regulations implementing the Act. On January 12, 1989, the Secretary of Transportation delegated these responsibilities to the Coast Guard.

## II. Regulatory Approach

These interim regulations amend Part 151 of Title 33, Code of Federal Regulations. This part is concerned with shipboard requirements to prevent pollution. Existing regulation in this Part implement Annexes I, II and V of MARPOL 73/78. There are no new requirements in the regulations in this document which change Annexes I, II or V requirements. This interim rule reorganizes Part 151 into 2 Subparts. Subpart A will contain the existing regulations in Part 151. Existing Subparts A, B, C, and D will be reorganized as undesignated hearings under Subpart A. The new Subpart B will contain the regulations implementing the Act.

Due to the July 15, 1989 statutory implementation date, the Coast Guard has decided to issue two regulatory projects implementing the responsibilities delegated under the Act. The first regulatory project, which is this document, is being initiated in the public interest as expeditiously as possible, to meet this deadline and allow vessels to continue to operate without interrupting the flow of waste removal. It establishes the requirement for the owner or operator of each vessel, whose purpose is to transport municipal or commercial waste, to apply for a conditional permit and to display a vessel number. It details the procedure to apply for a conditional permit and requirements for displaying the vessel number. It establishes the procedures for issuing conditional permits and the conditions for denying issuance and withdrawing a conditional permit.

At a later date, procedures for applications and issuance of a regular permit will be proposed. These procedures will continue, modify or replace the procedures contained in this document. Regulations implementing the suspension and revocation provisions of the Act will also be proposed.

## III. Vessels Effected By This Rule:

This rule applies to vessels whose purpose is to transport municipal or commercial waste in the coastal waters of the United States. The conference report on the Ocean Dumping Ban Act (Report 100-1090) states that the Act was intended "only to apply to vessels whose purpose is the transportation of municipal or commercial waste, not all

vessels. It was not intended to apply to vessels that may generate waste during their normal operations". There are many vessels which transport some quantities of municipal or commercial waste incidentally to the predominant business or purpose of the vessel, e.g., a ferry which transports a garbage truck loaded with municipal or commercial waste. In this example, the ferry is not required to apply for a permit, since the ferry's predominant business or purpose is not waste transportation. However, a vessel which regularly transports miscellaneous cargo but is hired to transport waste for a specific voyage would be required to hold a permit to transport waste for that voyage, since the predominant business or purpose of the vessel for that voyage is waste transportation.

#### IV. What Constitutes Municipal or Commercial Waste

Section 151.1006 defines the term "municipal or commercial waste", which is the same definition provided by section 4101(3) of the Act. This definition includes solid waste regulated under the Solid Waste Disposal Act (42 U.S.C. 6903) and transported for disposal on land, including municipal garbage, commercial refuse, medical wastes, and wood debris. However, in accordance with the Act, the term specifically excludes hazardous wastes identified and listed under the Solid Waste Disposal Act (42 U.S.C. 6921), waste generated by the vessel during normal operations, construction debris, sewage sludge as permitted by the EPA, and dredge spoil or fill materials subject to regulation under title I of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*), the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), or the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 401 *et seq.*).

#### V. Applying For a Permit

In order to receive a conditional permit to transport municipal or commercial waste, the owner or operator of a vessel must apply by letter to Commandant (G-MPS-1), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, Attn: Shore Protection Act Desk. Applications must include the information required by § 151.1012, which is also required by section 4102(b) of the Act and an acknowledgment that the information provided on the application is true and correct. After reviewing the application for completeness, the Coast Guard will determine whether or not to issue the conditional permit. A vessel number and the termination date of the conditional

permit will be added to the application. A copy of the application will be returned to the owner or operator to serve as the conditional permit for the vessel to transport municipal or commercial waste after July 15, 1989. This expeditious method of issuance is being implemented in the public interest to avoid the interruption of waste removal or any unnecessary accumulation of waste on vessels or shore structures.

Under the provisions of the Act, it will be unlawful to transport municipal or commercial waste after July 15, 1989 without a permit. To allow the continued transportation of municipal and commercial waste and to avoid the health hazards that would occur if waste accumulated, this interim rule provides for the issuance of conditional permits, which will be effective immediately. These conditional permits are subject to being withdrawn if further inquiry or consultation with Environmental Protection Agency (EPA) officials indicates the vessel would not qualify for a regular permit. As required by the Act, regular permits will not be effective until 30 days after they are issued.

Conditional permits will be valid for 18 months, unless a shorter period is specified on the permit. The Coast Guard may deny issuance of a conditional permit if the application for the conditional permit does not contain the required information or if the Coast Guard has reason to believe the information provided is not true or correct. The Coast Guard will notify the owner or operator in writing of the denial, the reason for the denial and the procedures for appealing this decision.

After issuing the conditional permit, the Coast Guard will consult with the regional director of the EPA, as required by 4102(d) of the Act, to determine whether or not the owner or operator of the vessel has a record or a pattern of serious violations of the Act, the Solid Waste Disposal Act (*supra*), the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*), the Rivers and Harbors Appropriations Act of 1899 (33 U.S.C. 401 *et seq.*), or the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*).

A conditional permit may be withdrawn at any time after issuance if the Administrator of the EPA requests withdrawal because the Administrator has determined that the owner or operator of the vessel has a record or a pattern of serious violations of the statutes listed under section 4102(d) (1) through (5) of the Act and described above. The Coast Guard will notify the

owner or operator in writing of the withdrawal, the reason for the withdrawal and the procedures for appealing this decision.

Owners or operators of vessels which have been denied issuance of a conditional permit or have had a conditional permit withdrawn may request reconsideration by the issuing authority. Owners or operators who are not satisfied with a ruling after it has been reconsidered may appeal this decision to the Chief, Office of Marine Safety, Security and Environmental Protection, U.S. Coast Guard Headquarters, Washington, DC 20593-0001. Appeals must be in writing and contain complete supporting documentation and evidence which the appellant wishes to have considered.

#### VI. Displaying a Vessel Number

Vessels under the Act are required to display a number or other marking on the vessel as prescribed by the Secretary of Transportation. The purpose of this marking is to aid in identification. The number assigned to the vessel will be stated on the conditional permit as described above.

The vessel number must be displayed on the vessel so that it is readily visible from either side. The vessel number must be clearly legible, displayed against a contrasting background and in block figures that are at least 18 inches in height.

#### Regulatory Evaluation

There are approximately 400 vessels whose purpose is the transportation of municipal and commercial waste in coastal waters. As explained above, the owner or operator of each of these vessels will be required to apply by letter for a permit to transport municipal and commercial waste in coastal waters and to display a number on the vessel. Conditional permits issued under this rule are in effect for a period no longer than 18 months. At the end of this period, vessel owners or operators who intend to transport municipal or commercial waste will be required to reapply for a permit. The Coast Guard estimates the total cost to the public for completing the application and displaying the vessel number will amount to less than \$15,000.00 Appeals, when utilized, are estimated to cost less than \$2,000.00. The cost of this regulatory project is so low that no further regulatory evaluation is considered necessary.

The Coast Guard concludes that these regulations are non-major under Executive Order 12291 and nonsignificant under DOT regulatory

policies and procedures (44 FR 11034; February 26, 1979).

#### Regulatory Flexibility Act

The Coast Guard has considered the impact of these regulations on small entities. The Coast Guard has adopted the Small Business Administration's (SBA) definition of "small business" used when considering SBA loans to concerns engaging in transportation and warehousing (13 CFR 121.10(f)) as a definition for small entities. A concern is considered small, under this definition, if its annual receipts do not exceed \$1.5 million.

These regulations contain only minimal reporting requirements. Respondents are required to complete an application containing only the minimum information necessary for the Coast Guard to fulfill its obligation under the Act. They are also required to display a number on the vessel. The cost of complying with these requirements will be minimal. These costs are proportionally lower for small entities than for larger ones because a small entity will have fewer vessels and therefore will have fewer applications to complete and numbers to display. Since these costs are so low, the cost to any individual small entity will be negligible. Therefore, the Coast Guard certifies that this rule will not have a significant economic impact on a substantial number of small entities.

#### Paperwork Reduction Act

This rule will add the new information reporting requirement that all vessels whose purpose is the transportation of municipal and commercial waste apply for a conditional permit. The information reporting requirements have been submitted to the Office of Management and Budget for approval under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). OMB Control Number 2115-0579 has been assigned under the provisions of 5 CFR 1320.18.

#### Environmental Impact

The permit and numbering system, prescribed by the interim rule, are a part of a regulatory program intended to minimize the amount of municipal or commercial waste entering the coastal waters of the U.S. However, the proposed regulations are administrative in nature and do not prescribe any operational requirements which would have an impact on the environment. The interim rule has been thoroughly reviewed by the Coast Guard and has been determined to be categorically excluded from further environmental documentation as provided for in 10

CFR 51.22(c)(3). Therefore, neither an Environmental Assessment or Environmental Impact Statement has been prepared for this interim rule. The categorical exclusion determination is available in the docket for examination and copying as indicated under "ADDRESSES".

#### Federalism Assessment

This interim rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that this rulemaking does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

#### Regulatory Information Number (RIN)

A regulatory information number has been assigned to this regulatory action and will be listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center (RISC) publishes the Unified Agenda in April and October of each year. The RIN number listed at the heading of this document can be used to follow the progress of this action in the Unified Agenda.

#### List of Subjects in 33 CFR Part 151

Oil pollution, Reporting and recordkeeping requirements, Water pollution control.

In consideration of the preceding, the Coast Guard amends Part 151 of Title 33, Code of Federal Regulations, as follows:

#### PART 151—[AMENDED]

1. By removing the authority citation for Part 151 and adding the authority citation for Subpart A to read as follows:

Authority: 33 U.S.C. 1321(j)(1)(C) and 1903(b); E.O. 11735, 3 CFR, 1971-1975 Comp., p. 793; 49 CFR 1.46.

2. By revising the title of Part 151 to read as follows:

#### PART 151—VESSELS CARRYING OIL, NOXIOUS LIQUID SUBSTANCES, GARBAGE AND MUNICIPAL OR COMMERCIAL WASTE

3. By removing all subpart designations but leaving the headings of those removed subparts and adding a new Subpart A above the undesignated "General" heading to read as follows:

#### Subpart A—Implementation of MARPOL 73/78

4. By adding a new Subpart B to read as follows:

#### Subpart B—Transportation of Municipal and Commercial Waste

Sec.

- 151.1000 Purpose.
- 151.1003 Applicability.
- 151.1006 Definitions.
- 151.1009 Transportation of municipal or commercial waste.
- 151.1012 Applying for a conditional permit.
- 151.1015 Issuing or denying the issuance of a conditional permit.
- 151.1018 Withdrawal of a conditional permit.
- 151.1021 Appeals.
- 151.1024 Display of vessel number.

#### Subpart B—Transportation of Municipal and Commercial Waste

Authority: 33 U.S.C. 2602; 49 CFR 1.46.

#### § 151.1000 Purpose.

The purpose of this subpart is to implement the permit provisions of the shore Protection Act of 1988, (33 U.S.C. 2601 *et seq.*).

#### § 151.1003 Applicability.

(a) Except as provided by paragraph (b) of this section, this subpart applies to each vessel whose purpose is the transportation of municipal or commercial waste in coastal waters.

(b) This subpart does not apply to public vessels.

#### § 151.1006 Definitions.

As used in this subpart—

"Coastal Waters" means—

(1) The territorial sea of the United States;

(2) The Great Lakes and their connecting waters;

(3) The marine and estuarine waters of the United States up to the head of tidal influence; and

(4) The Exclusive Economic Zone as established by Presidential Proclamation Number 5030, dated March 10, 1983.

Note: The Exclusive Economic Zone extends from the baseline of the territorial sea of the United States seaward 200 miles.

"Municipal and commercial waste" means solid waste as defined in section 1004 of the Solid Waste Disposal Act (42 U.S.C. 6903) except—

(1) Solid waste identified and listed under section 3001 of the Solid Waste Disposal Act (42 U.S.C. 6921);

(2) Waste generated by a vessel during normal operations;

(3) Debris solely from construction activities;

(4) Sewage sludge subject to regulation under title I of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*); and

(5) Dredge or fill material subject to regulation under title I of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*), the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), or the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 401 *et seq.*).

"Public vessel" means a vessel that—

(1) Is owned, or demise chartered, and operated by the United States Government or a government of a foreign country; and

(2) Is not engaged in commercial service.

"Vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

#### § 151.1009 Transportation of municipal or commercial waste.

A vessel may not transport municipal or commercial waste in coastal waters without—

(a) A conditional permit to transport municipal or commercial waste issued under this subpart; and

(b) Displaying a number in accordance with § 151.104.

#### § 151.1012 Applying for a conditional permit.

(a) The owner or operator of each vessel to which this subpart applies shall apply by letter for a conditional permit required by § 151.1009. Applications must be submitted to Commandant (C-MPS-1), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, Attn: Shore Protection Act Desk and include the following:

(1) The name, address, and telephone number of the vessel owner and operator.

(2) The vessel's name and official number, if any.

(3) The vessel's area of operation.

(4) The vessel's transport capacity.

(5) A history of the types of cargo transported by the vessel during the previous year, including identifying the type of municipal or commercial waste transported as—

(i) Municipal waste;

(ii) Commercial waste;

(iii) Medical waste; or

(iv) Waste of another character.

(6) The types of cargo to be transported by the vessel during the effective period of the conditional permit, including identifying the type of municipal or commercial waste as it is

identified in paragraphs (a)(5)(i) through (iv) of this section.

(7) A statement of whether the application for a conditional permit is for a single voyage, a short term operation or a continuing operation. If the application is for a single voyage or a short term operation, the statement must include the duration of the voyage or operation.

(8) An acknowledgment that certifies as to the truthfulness and accuracy of the information provided.

(b) The owner or operator under paragraph (a) of this section shall provide any additional information the Coast Guard may require.

#### § 151.1015 Issuing or denying the issuance of a conditional permit.

(a) After reviewing the application made under § 151.1012, the Coast Guard either—

(1) Issues the conditional permit for a vessel under this section; or

(2) Denies the issuance of the conditional permit to the vessel in accordance with paragraph (c) of this section. On denying the issuance of the permit, the Coast Guard notifies the applicant of the—

(i) Denial and the reason for the denial; and

(ii) Procedures under § 151.1021 for appealing the denial.

(b) Each conditional permit issued under this section is effective—

(1) On the date it is issued; and

(2) Until the expiration date stated on the conditional permit unless it is—

(i) Withdrawn under § 151.1018;

(ii) Terminated because—

(A) The vessel is sold; or

(B) This subpart no longer applies to the vessel.

(c) The Coast Guard may deny the issuance of a conditional permit if—

(i) The application does not contain the information required under § 151.1012; or

(ii) There is reason to believe that the information contained on the application is not true and correct.

#### § 151.1018 Withdrawal of a conditional permit.

(a) The Coast Guard may withdraw a conditional permit if the Administrator of the EPA requests withdrawal because the Administrator has determined that the owner or operator of the vessel has a record or a pattern of serious violations of—

(1) Subtitle A of the Shore Protection Act of 1988 (33 U.S.C. 2601 *et seq.*);

(2) The Solid Waste Disposal Act (42 U.S.C. 6901 *et seq.*);

(3) The Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*);

(4) The Rivers and Harbors Appropriations Act of 1899 (33 U.S.C. 1401 *et seq.*); or

(5) The Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*).

(b) Upon reaching a determination to withdraw a conditional permit, the Coast Guard notifies the owner or operator of—

(1) The withdrawal and the reason for the withdrawal;

(2) The procedures for appealing the withdrawal.

(c) After receiving the notice under paragraph (b) of this section, the owner or operator shall ensure that—

(1) The vessel immediately ceases transporting municipal or commercial waste and the marking required by § 151.1024 is removed; and

(2) The conditional permit is returned to the Coast Guard within 5 days after receiving the notice.

#### § 151.1021 Appeals.

(a) Any person directly affected by an action taken under this subpart may request reconsideration by the Coast Guard officer responsible for that action.

(b) The person affected who is not satisfied with a ruling after having it reconsidered under paragraph (a) of this section may—

(1) Appeal that ruling in writing within 30 days after the ruling to the Chief, Office of Marine Safety, Security and Environmental Protection, U.S. Coast Guard, Washington, DC 20593-0001; and

(2) Supply supporting documentation and evidence that the appellant wishes to have considered.

(c) After reviewing the appeal submitted under paragraph (b) of this section, the Chief, Office of Marine Safety, Security and Environmental Protection issues a ruling which is final agency action.

(d) If the delay in presenting a written appeal has an adverse impact on the operations of the appellant, the appeal under paragraph (b) of this section—

(1) May be presented orally; and

(2) Must be submitted in writing within five days after the oral presentation—

(i) With the basis for the appeal and a summary of the material presented orally; and

(ii) To the same Coast Guard official who heard the oral presentation.

§ 151.1024 Display of number.

(a) The owner or operator of each vessel under this subpart must ensure that the vessel number stated on the conditional permit issued under

§ 151.1015 is displayed so that it—

- (1) Is clearly legible;
- (2) Has a contrasting background;
- (3) Is readily visible from either side of the vessel; and
- (4) Is in block figures that are at least 18 inches in height.

(b) No person may tamper with or falsify a number required under this section.

J.D. Sipes,

*Rear Admiral, U.S. Coast Guard, Chief, Office of Marine Safety, Security and Environmental Protection.*

April 28, 1989.

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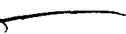
MEMORANDUM

**SUBJECT: Work Group Closure for Proposed Shore Protection Act Regulations: Waste Handling Practices for Vessels and Waste Transfer Stations, Appendix A - Guidance for developing operation and maintenance manuals. 40 CFR Part 237**

**FROM: Joel Salter, Chair**   
Shore Protection Act Regulations Work Group

**TO: Shore Protection Act Work Group Members**

The following draft document provides guidance to owners and operators of municipal and commercial waste transportation operations for the development of operation and maintenance manuals. We are sending this out too late for formal review at the workgroup closure meeting scheduled for January 18, 1994 at 3:00 pm, but, if you would like to submit written comments on this document at that time please do. We will accept further comment prior to Red Border Review.

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## **APPENDIX A - GUIDANCE ON OPERATION AND MAINTENANCE MANUALS FOR WASTE SOURCES, VESSELS AND RECEIVING FACILITIES**

This appendix provides a basic structure for the development of operation and maintenance manuals for the regulated entities. The operation and maintenance manual developed by a vessel permitted under the Shore Protection Act, or associated waste source and receiving facility should be a clear statement of operation and maintenance procedures for preventing waste from accidentally spilling into coastal waters of the United States. Each regulated vessel, or associated waste source and receiving facility should develop an operation and maintenance manual to suit its particular characteristics.

### **Applicability**

The owners or operators of the following vessels (unless excluded below) are required to develop and submit an operation and maintenance manual:

- A vessel transporting municipal or commercial waste in coastal waters;
- Vessels that regularly transport miscellaneous cargo but are hired, contracted, or used to transport municipal or commercial waste for a specific voyage; and
- Vessels that transport operational waste from other vessels that meet the definition of municipal or commercial waste - this does not include vessels transporting their own

operational wastes.

The owners or operators of the following vessels are excluded from developing and submitting operation and maintenance manuals:

- Public vessels, defined as vessels that are owned, demise chartered, and operated by the United States Government or a government of a foreign party, and do not engage in commercial service;
- Vessels that transport some quantity of waste incidental to the predominant business or purpose of the vessel. For example, a ferry which transports a garbage truck loaded with municipal or commercial waste; and
- Vessels transporting recreational vessel sewage or "blackwater" pumped from recreational vessel holding tanks.

The owners or operators of waste sources and receiving facilities, as defined below and in 237.3(g) and (l) are required to develop and submit an operation and maintenance manual:

- A facility, vessel, or operation that receives municipal or commercial waste unloaded from a vessel; and
- A vessel or a facility from which municipal or commercial waste is loaded onto a vessel, including any rolling stock or motor vehicles from which that waste is directly loaded.

#### The Manual

The structure and detail of each operation and maintenance manual may vary as the vessel, waste source, or receiving facility will vary and as the type of waste transferred and transported will vary. As a result of the variation in the physical nature of municipal and commercial waste, the structure and requirements provided in this appendix are necessarily generic and will require further elaboration based on the specifics of the operations and maintenance nuances at your facility, source, or vessel. However, it is expected that an operation and maintenance manual meeting the minimum requirements of this regulation need not exceed 20 to 30 pages in length. It is recommended that owners and operators of sources, facilities and vessels review the recommended waste handling practices provided in the Shore Protection Act Implementation Guidance document (EPA842-B-94-001).

#### Operation and Maintenance Manuals for Vessels

The operation and maintenance manual for vessels consists of three parts: 1) waste transfer procedures, 2) waste clean up procedures, and 3) waste deposit reporting procedures.

The first part of the operation and maintenance manual shall identify the measures that you will take to minimize the deposit of waste into coastal waters during transport and transfer activities. In the operation and maintenance manual you should:

- Describe the roles and responsibilities of each relevant member of the crew during waste transfer and transport.

- Provide a detailed step-wise description to the vessel crew on the implementation of the technologies and techniques that will be employed during waste transfer and transport. These should include appropriate containment or diversionary structures, or other equipment designed to minimize waste deposits. The technologies and techniques described shall be appropriate to the size and nature of the vessel and must represent a responsible effort to minimize the spillage of waste,
- Instruct the crew to secure the waste in such a way as to prevent the deposit of waste.
- Direct the crew not to load the vessel in excess of its capacity.
- Direct the crew that all ports and valves that may be used for flushing or discharging waste or waste residue from the hull or tanks must be clearly labelled and that all ports and valves must be sealed except for the purpose of transferring wastes.
- Describe record keeping procedures, i.e. record of amount and type of waste offloaded, or amount and type of waste received.

The second part of the operation and maintenance manual describes for the vessel crew the procedures that will be used to clean up, promptly and thoroughly, any waste deposited into coastal waters. This section must:

- Describe the role and responsibilities of each relevant member of the crew during clean up.
- Describe in detail for the crew the techniques and technologies that will be employed during waste clean up. The technologies or techniques must be appropriate to the waste type and the size and nature of the vessel and must represent a responsible effort to clean up all waste promptly and thoroughly.

In the third part of the operation and maintenance manual describe the procedures to be followed if the vessel's crew is unable to clean up all of the waste deposited. In this section you must:

- Provide a contact name and telephone number of the designated responsible person (40 CFR 237.5) involved in the ownership or operation of the vessel. Indicate that this contact person should be notified immediately by telephone, marine radio or in writing if the crew is unable to completely clean up the waste deposited. This contact name and phone number must be posted on the vessel in a location visible to the vessel's crew.
- Provide a contact name and telephone number of the appropriate USCG official to be contacted by the responsible person if the crew is unable to completely clean up the waste deposited. This contact name and phone number must also be posted on the vessel in a location visible to the

vessel's crew.

- Provide an example of a follow up letter to be used by the responsible person to report the waste deposit to the appropriate USCG official (Table 1).
- Provide copies of the form that assists record-keeping and reporting in the event of a waste deposit (EPA guidance document EPA842-B-94-001). The operation and maintenance manual must instruct the appropriate crew member to complete one of these forms for each deposit of waste. The record must include the time and date of the deposit, estimates of the amount of wastes deposited and amount retrieved, actions taken to clean up the waste deposit, and any other pertinent information. If an action was not accomplished or it was decided to attempt an unsuccessful control strategy, it is important to document why those actions were taken. Any actions to prevent further incidents of this type should also be recorded. All waste deposits must be recorded, whether cleaned up or not.

#### 4.2 Operation and Maintenance Manuals for Waste Sources and Receiving Facilities

The operation and maintenance manual for waste sources and receiving facilities consists of three parts: waste transfer procedures, waste clean up procedures, and waste deposit reporting procedures.

The first part of the operation and maintenance manual must

identify the measures that you will take to prevent the deposit of waste into coastal waters during the transfer of wastes. In the operation and maintenance manual you must:

- Describe the roles and responsibilities of each relevant facility staff member during waste transfer.
- Provide a detailed step-wise description to relevant employees on the implementation of technologies and techniques that will be employed during waste transfer. These should include appropriate containment or diversionary structures, or other equipment designed to minimize waste deposits. The technologies or techniques described must be appropriate to the waste type and size and nature of the vessels loaded/unloaded, and represent a responsible effort to minimize the deposit of wastes.
- Describe record keeping procedures, i.e record of amount and type of waste offloaded, or amount and type of waste received.

The second part of the operation and maintenance manual describes for your employees the procedures that will be used to clean up, promptly and thoroughly, any waste deposited into coastal waters. This section must:

- Describe the roles and responsibilities of each relevant employee during waste clean up.
- Describe in detail how to implement the techniques and technologies that will be employed during waste clean up.



The technologies and techniques used must be appropriate to the waste type and size and nature of the vessels, and must represent a responsible effort to clean up all waste promptly and thoroughly. The methods described may include sweeper boats, manned boats to remove waste, shoreline clean up crews, and booms or other equipment designed to recover waste deposited near shore.

- Specify that clean up equipment and personnel be in continuous operation, or on standby at the transfer facility for waste transfer operations that occur during an ebb tide.
- Direct all employees that all waste that clearly resulted from, or may have resulted from, waste loading or unloading operations shall be removed prior to the first high tide following the completion of any waste transfer operation or before the waste has had a chance to disperse.

The third part of the operation and maintenance manual describes the procedures to be followed if the facility's staff is unable to clean up all of the waste deposited. This section must:

- Provide a contact name and telephone number of the designated responsible person (40 CFR 237.4) involved in the ownership or operation of the facility. Indicate that this contact person should be notified immediately by telephone or in writing if the employees are unable to completely clean up the waste deposit. This contact name and phone

number must be posted at the facility in a location visible to the facility's employees.

- Provide a contact name and telephone number of the appropriate EPA official to be contacted if the employees are unable to completely clean up the deposit. This contact name and phone number must also be posted at the facility in a location visible to the facility's employees.
- Provide an example of a letter to be used by the responsible person to report the waste deposit to the appropriate EPA official (Table 2).
- Provide copies of the form that assists record-keeping and reporting in the event of a waste deposit (Table 3). The operation and maintenance manual must instruct the appropriate employee on duty to complete one of these forms for each waste deposit. The record must include the time and date of the deposit, estimates of the amount of wastes deposited and amount retrieved, cause of deposit, actions taken to clean up the waste deposit, and any other pertinent information. If an action was not accomplished or it was decided to attempt an unsuccessful control strategy, it is important to document why those actions were taken. Any actions to prevent further incidents of this type should also be recorded. All waste deposits must be recorded, whether cleaned up or not.