

GAO

Report to the Chairman, Subcommittee  
on Transportation and Related  
Agencies, Committee on  
Appropriations, U.S. Senate

January 1990

COAST GUARD

Preparation and  
Response for Oil Spills  
in Philadelphia and  
New York Ports



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Resources, Community, and  
Economic Development Division

B-236137.5

January 26, 1990

The Honorable Frank R. Lautenberg  
Chairman, Subcommittee on Transportation  
and Related Agencies  
Committee on Appropriations  
United States Senate

Dear Mr. Chairman:

On April 13, 1989, you requested that we (1) evaluate how well industry and government are prepared to respond to oil spills and (2) examine measures that can be taken to help prevent spills in the future. You requested that we address these issues for the March 24, 1989, Exxon Valdez spill in Alaska's Prince William Sound and for the Philadelphia and New York ports. We discussed our observations on the Exxon Valdez spill in an October 1989 report, which stated that industry and government were not well prepared to respond to the spill and that priority needs to be given to measures to help prevent similar situations from occurring in the future.<sup>1</sup> This report responds to your request concerning the Philadelphia and New York ports.

## Results in Brief

We found that, similar to the situation in Prince William Sound, in the Philadelphia and New York ports, industry and the Coast Guard are not prepared to respond<sup>2</sup> to major oil spills (over 100,000 gallons). Factors contributing to this unpreparedness include the lack of (1) specificity in the Philadelphia and New York Coast Guard's and industry's contingency plans on how spills of various sizes would be handled with available resources and (2) Coast Guard authority to require ship owners and operators to have contingency plans or to require changes in existing plans. We also found that the response to a recent spill in the Philadelphia area indicates a need to improve equipment capabilities for containing oil and removing it from the water.

As we stated in our Exxon Valdez report, even with a substantially greater commitment to improving response capabilities, recent experiences indicate that the priority for dealing with major oil spills should be to prevent them from occurring in the first place. The experiences in

<sup>1</sup>Coast Guard: Adequacy of Preparation and Response to Exxon Valdez Oil Spill (GAO/RCED-90-44, Oct. 30, 1989).

<sup>2</sup>As used in this report, response to a spill includes containing oil and removing it from the water.

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Prince William Sound and Philadelphia, and across the nation, however, show that much needs to be done to improve prevention measures such as monitoring and guiding ship movements and using harbor pilots or vessel escorts.

Recent actions by the Coast Guard to identify what size spills can be handled effectively with existing resources in each port area, and recent bills passed by the Senate and House to require the development of plans by industry, the approval of such plans by the Coast Guard, and the establishment of a fund to support prevention, response, and research and development activities indicate a strong desire to reduce the risks associated with such spills. But leadership is needed to pull together the various options for making improvements nationally.

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## Background

The Clean Water Act provides for a national contingency plan to achieve efficient, effective, and coordinated action for minimizing damage from oil spills. The plan, set forth in regulations, defines an organizational structure that ranges from a national response team to coordinators on the scene. Collectively, this structure tries to ensure the coordination of oil spill contingency plans and response actions from the national to the local level. The Commandant of the Coast Guard, who is responsible for assuring that responses to spills are adequate, has designated the Coast Guard Captains of the Port in Philadelphia and New York as the “on-scene coordinators” for their respective areas.

In general, the owner or operator of a vessel that discharges oil in violation of the Clean Water Act is responsible and liable for removal costs, with the on-scene coordinator monitoring the removal operation to ensure it is being done properly. When a polluter is unknown or the Coast Guard on-scene coordinator determines the removal effort is insufficient, he shall assume total or partial control of response activities by “federalizing” the response. This activates the 311(k) fund provided under the act to cover expenses and allows the coordinator to take whatever actions are necessary to ensure proper cleanup.

The area of responsibility of the Philadelphia Captain of the Port includes the Delaware Bay and River System and its seaward approaches. Over 70 percent of all oil entering the eastern United States does so on ships transiting the Delaware Bay. The area of responsibility of the New York Captain of the Port includes the Greater New York Harbor and connecting waterways serving New York and northeastern New Jersey. According to the Coast Guard, on an average day, 76 vessels,

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ranging in capacity from 840,000 to 25,200,000 gallons, transport oil in the New York port.

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## Response Plans and Capabilities Need Improvement

Industry and Coast Guard response capabilities and preparations proved inadequate during the June 24, 1989, 300,000-gallon Presidente Rivera spill on the Delaware River. It is questionable whether the preparedness for spills of similar size in the New York port or for other spills of similar size in the Philadelphia port area would be any better. This unpreparedness exists primarily because the industry's and New York Coast Guard's plans neither specifically identify the sizes of spills that, based on experience, could reasonably be expected to occur nor say what personnel and equipment are required to respond to spills of various sizes. Although the Coast Guard's recently revised plan for the Philadelphia port recognizes that spills of 1.5 to 2 million gallons are probably the worst that could occur, it states that local resource capabilities could handle effectively spills of no more than 50,000 gallons. Further, while the owners or operators of tankers in transit are responsible for responding to spills, the Coast Guard believes it does not have the authority to ensure beforehand that their preparations are adequate to deal with a spill. Bills recently passed by the Senate and House would require owners or operators of ships in transit to have contingency plans approved by the Coast Guard.

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## Plans Lack Specifics on Response Capabilities

According to our consultant on oil spill response,<sup>3</sup> because spills of over 100,000 gallons occur at least annually and spills of over 1,000,000 gallons can be expected to occur every 5 to 10 years, it is important to have detailed, up-to-date contingency plans. Our consultant also stressed the importance of recognizing in contingency plans variables that could affect response capabilities. A major flaw our consultant found with both the Coast Guard's and industry's plans for Prince William Sound was the lack of specifics on resources and actions that would be employed for spills of different sizes that could occur in the area. For example, our consultant concluded that if the contingency plans for the Exxon Valdez spill had addressed questions such as how much equipment would be necessary and when it could arrive, the decision makers at the incident would have been in a better position to make informed decisions concerning containment and cleanup.

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<sup>3</sup>Engineering Computer Optecnomics, Inc., (ECO) of Annapolis, Maryland, a firm with expertise in oil spill contingency planning, response, and prevention, assisted in our evaluation of the Exxon Valdez oil spill. As part of its efforts, the company evaluated the spill using the key elements of an adequate oil spill contingency plan.

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Tankers transiting Philadelphia and New York port waters are not required to have oil spill response contingency plans. When spills occur with such vessels, the owners or operators generally contract with oil company cooperatives<sup>4</sup> and private companies to respond to them. While the Philadelphia and New York cooperatives have contingency plans, we found that the plans lack specifics on capabilities for handling spills. For example, our consultant believes that the Philadelphia plan does not specify what personnel and equipment would be needed to respond to spills of various sizes, nor does it indicate the largest spill the cooperative could handle. Similarly, the New York plan does not link resources to a spill of a specific size. While the New York plan contains details of equipment that cooperative officials said can handle a 1,680,000-gallon spill over 5 days, it does not indicate from where or how quickly personnel could be obtained to use the equipment. We also found that neither of the cooperatives' plans addresses variables, such as the time of day or week when a spill might occur, that could have an impact on the effectiveness of the spill response.

Unlike the operationally oriented cooperative plans, the Coast Guard's contingency plans for the Philadelphia and New York ports are primarily designed for the Coast Guard's monitoring or directing the actions of others. Specifically, the Coast Guard's plans (1) outline the duties and interactions of the responding agencies; (2) promote the coordination of federal, state, and local response systems; (3) encourage the development of capabilities by both local government and private interests to handle or prevent pollution discharges; and (4) provide detailed information on local geography and critically sensitive areas. Coast Guard officials in both ports acknowledged the plans' lack of specifics on resources available to deal with spills of various sizes and explained that when a spill has occurred, they have employed an operational concept of using as many cleanup contractors as necessary. The officials also said that they have developed a knowledge of, and working relationships with, contractors—information not written into the local plans.

After the Exxon Valdez experience, the Coast Guard Commandant directed port captains to review their plans and include more information in them, such as historical spill considerations, worst case scenarios, and scenarios for the most probable and realistic spills. Although the plans for the Philadelphia and New York ports were revised in October

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<sup>4</sup>Cooperatives are organizations voluntarily formed by member oil companies who share certain common resources in the event of a spill.

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1989, improvements are still needed. For example, the Captain of the Port for Philadelphia analyzed the local response capability, specifically addressing the personnel and equipment shortfalls for the worst case scenario—which he defined as involving a spill of 1.5 to 2 million gallons. (See app. I for more details.) The revised plan, however, acknowledges that response capabilities in the area are not adequate to deal with a spill of that size, but does not describe how resources could be brought in from other areas to handle the spill; rather the revised plan is limited to describing capabilities that are available locally to respond to a spill of 50,000 gallons.

In his recent review of the Coast Guard's plan for New York, the Captain of the Port recognized that a spill of severe consequence could occur but did not specify what size spills could be handled effectively. He said that the effectiveness of the response depends on the location, temperature, wind velocity, current velocity, type of oil, and many other factors. As a result, he said it is impossible to state that spills of any particular size can be handled. (See app. I for more details.)

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### Resources Needed for Major Spills Not Always Available

Experience in the Philadelphia port area has demonstrated that resources will not always be available to respond to spills as the cooperative and Coast Guard assume. For example, during the first 2 days of the Presidente Rivera spill, the response contractor was not able to obtain enough people and workboats to remove the oil from the water and the beaches. Industry could not provide personnel in sufficient numbers because the spill occurred on a weekend—a factor our consultant said should be addressed in plans—and because personnel were handling other spills. Running into the same obstacles, Coast Guard officials said they and the local response organization tried but could not add large numbers of resources from all of their known sources. Ultimately, Delaware's National Guard supplied manpower to do the job, and equipment was provided by various sources, including the Coast Guard National Strike Team (a Coast Guard group equipped to provide supplemental response support for, or on behalf of, federal on-scene coordinators).

Resource shortages have been problems in the response to other major Delaware River spills as well. For example, the on-scene coordinator for the Grand Eagle spill (a 462,000-gallon spill that occurred on the Delaware River in September 1985) said that contractors had problems obtaining cleanup personnel for the response during hunting and fishing seasons. Similar worker availability problems occurred during the

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Intermar Alliance spill (a 176,000-gallon spill that occurred on the Delaware River in March 1986).

Recent reviews of the Coast Guard's plans have identified more specific limitations in response capabilities. Although the Philadelphia port has had in the past 5 years four oil spills in excess of 100,000 gallons, in his October 1989 revised plan, the Captain of the Port recognized that response capabilities in the area could deal effectively with spills of no more than 50,000 gallons. He added that response effectiveness would be affected by the time it could take area contractors to arrive on the scene and deploy their equipment, as many as 6-9 hours. Further, he pointed out, "There are simply not enough personnel and equipment available locally to be able to conduct effective cleanup operations for a worst case spill," which, he said, would cause him to rely on the Strike Teams and Navy for assistance.

In the New York port, two major spills—one of 102,000 gallons and the other of 301,000 gallons—have occurred in the last 5 years, but neither was as complex as the Presidente Rivera spill. The New York on-scene coordinator for these spills did not prepare reports on them; consequently, no written assessment was made of the preparations or response. The recently revised New York Coast Guard's plan does not describe specifically the resource capabilities in the area.

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**Authority Is Needed to Ensure Response Preparations Are Adequate**

The Coast Guard believes it lacks authority to require private ship owners, operators, or others, such as industry cooperatives, to have contingency plans for dealing with oil spills by vessels in transit. Furthermore, if the owner, operator, or cooperative has such a plan, the Coast Guard believes it cannot dictate the size of the spill that the plan should address, ensure that the resources called for in the plan are in place, or ensure that the plan is tested for its effectiveness.

However, the Coast Guard asserts that once a spill occurs, it has authority to monitor the response or assume partial or total control of the response. Thus, while the Coast Guard has a major role in ensuring the effectiveness of a response, it believes it does not have the necessary authority to ensure that industry response preparations are adequate. If the Coast Guard would have the authority to approve industry plans to ensure their quality, it would be in a better position to develop its own plans to guide actions if it would have to assume control of the response. Coast Guard officials believe this lack of authority is the most significant limiting factor in the contingency planning process.

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To address this deficiency, bills passed by the Senate (S. 686) and House (H.R. 1465) in August and November 1989, respectively, require all owners and operators of tank vessels carrying oil in U.S. waters to prepare and submit to the Coast Guard a contingency plan for the prevention, containment, and cleanup of oil spills from their vessels or facilities. The bills require that the plans provide full details of the method of response to a worst case spill and a detailed description of equipment to be used. Further, these bills require the Coast Guard to approve all contingency plans and to require changes to the plans or response capabilities it deems necessary. Coast Guard officials told us that this new authority will require substantial additional resources and clarification of federal liability relating to the use of approved plans. The Congress is expected to act early in 1990 on this proposed legislation, which we endorse in concept.

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## Deficiencies Noted in Capabilities of Response Equipment

The responses to the Presidente Rivera and Exxon Valdez spills also indicated a need to improve equipment for containing and removing oil. For example, a lesson learned from the response to the Presidente Rivera spill was that the equipment normally used, such as booms and skimmers, would not effectively contain or recover the heavy tar-like clumps of spilled oil. During the initial stages of the spill, the containment booms used were not heavy enough and did not go deep enough into the water to prevent the heavy oil from passing under them. Skimmers could recover the material, but it was almost impossible to off-load the collected material. Initially, oil was recovered by physically picking up the clumps, either by hand or by fishing net, and placing them in containers. Later, according to Coast Guard officials, clamshell dredges were more effective in picking up the oil.

In our Exxon Valdez report, we said that current recovery technology could not have addressed effectively a spill of the size encountered. Coast Guard officials told us that the response to that spill was hampered by breakdowns in equipment and by techniques rendered ineffective by weather and water conditions. Further, Coast Guard officials told us that with current technology, the best that typically can be expected after a major spill, such as the one from the Exxon Valdez, is to recover 10 to 15 percent of the oil.

Notably, however, while concern exists that response technology has not changed much since the 1970s, federal funding for research and development has been cut back in recent years. For example, according to an official of the Environmental Protection Agency, in fiscal year



1988 the agency suspended research and development in prevention and cleanup of oil spills in favor of higher priority needs. Also, in fiscal year 1989 the Coast Guard's budget for research, development, testing, and evaluation in its Marine Environmental Protection Program, of which oil spill response is only a part, was about \$.5 million—\$8.3 million less than was expended in 1983.

Acknowledging the need for improvement, the Senate and House bills, which we endorse in concept, authorize the establishment of a program that would provide for research, development, and demonstration of new or improved technologies effective in preventing or mitigating oil discharges under both moderate and harsh environmental conditions.

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## Priority Needs to Be Given to Spill Prevention

The nation's limited ability to deal with spills of the size or nature of those from the Exxon Valdez or Presidente Rivera demonstrates the importance of preventing such spills from occurring in the first place. The examinations after these spills show that improvements are needed in prevention measures, including such important ones as the monitoring and guiding of ship movements, and the use of vessel escorts and harbor pilots.

One method to guard against vessel groundings or collisions that could result in oil spills is the use of a Vessel Traffic Service (VTS) system. According to Coast Guard officials, because of budget constraints, VTS systems across the country have been cut back, including the elimination of the New York Harbor VTS in 1988. The Coast Guard currently operates a VTS in five areas of the nation's waterways. Recently, however, supplemental appropriations were passed, making up to \$5.6 million available for the development, acquisition, installation, and operation of, and support for a VTS in the New York Harbor area. The Philadelphia port has no Coast Guard VTS, but private organizations operate a VTS at the mouth of Delaware Bay to track ship arrivals and departures. The Coast Guard is currently examining the role of the VTS system nationwide in monitoring and guiding ship movements. Coast Guard officials believe VTS systems should be mandatory since some systems now in use are voluntary.

Using vessel escorts and harbor pilots can help lower the likelihood of accidents by assisting vessels and by possibly providing the captains with more knowledge of local water conditions and hazards. The use of these prevention measures is important in ports where a large number of foreign ships enter, such as the New York and Philadelphia ports. For

these ports, the Coast Guard requires vessels transporting hazardous cargo, such as liquified petroleum gas, to have vessel escorts as an added safety measure, but does not routinely require oil tankers to use escorts. If a ship transporting oil has mechanical problems or has to transit hazardous waters, however, the Captain of the Port can direct that escorts be used.

The use of pilots in the Philadelphia and New York ports differs. In the Philadelphia port area, Delaware and Pennsylvania require that a state-licensed pilot remain on board the vessel from the time it enters the Delaware Bay until it is docked. In the New York port area, New York requires a state-licensed pilot be on board a vessel while it is entering New York harbor, but not while it is being docked or moved within the harbor. The Coast Guard is currently examining pilotage authorities and requirements to consider any need for change.

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## Recent Spills Have Generated Recommendations That Will Need Focused Action and Greater Funding

The Exxon Valdez spill has generated many recommendations for improving prevention and response nationwide. A Department of Transportation and Environmental Protection Agency May 1989 joint report to the President, done in response to that incident, identifies many efforts needed in prevention, contingency planning, readiness of response resources, designation of roles and responsibilities of parties involved in a response, and research and development. Also, the American Petroleum Institute issued a June 1989 report that includes recommendations for improving prevention, response, and research and development. In addition, the Coast Guard completed a comprehensive evaluation of alternatives to help prevent oil spills, and many other activities are still underway that will add to possible nationwide actions.

Similarly, the Presidente Rivera spill has generated suggestions for improving prevention and response in the Delaware River area, suggestions that may be applicable elsewhere. For example, Philadelphia Coast Guard officials believe that advance planning should be done with state government sources of manpower, such as the National Guard, so that the manpower is ready for quick activation in an emergency when commercial personnel are unable to meet the need. In its preliminary report on the Delaware River spill, the Coast Guard suggested that private industry develop an emergency management team to assist in mobilizing resources. Subsequently, the Philadelphia Coast Guard established such a team to advise the on-scene coordinator.

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Although the many suggested actions stemming from the Exxon Valdez and Presidenta Rivera spills are positive signs, these actions may not be as effective as possible if implemented only on a local basis, that is, if only local changes are made in the use of VTS, escorts, or pilots. Thus, it may be appropriate to establish a single entity or leader for recommending and pulling together the specific actions that are likely to achieve a higher level of protection nationally.

As we previously reported on the Exxon Valdez spill, achieving greater protection will require greater funding. The recent Senate and House bills, which we endorse in concept, would establish a fund to pay for response activities and damages if full compensation is not available from the party that spills the oil. Money for the fund would come from a per barrel tax on crude oil and petroleum products shipped in U.S. waters.

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## Conclusions

Planning and readiness for oil spills in the Philadelphia and New York ports need improvement, as they do elsewhere in the nation. Industry and the Coast Guard cannot respond effectively to oil spills if they do not have the plans and resources necessary to do the job. Although recent Coast Guard assessments of response capabilities in the Philadelphia and New York ports raise questions about industry's ability to handle major spills in these areas, the Coast Guard does not believe it has the authority necessary to ensure that adequate industry response preparations have been made. Past experiences with major spills have shown that a greater commitment to planning and response will probably not fully protect the environment. Thus, priority should be given to preventing spills. Industry and government efforts are already underway nationally and locally to improve prevention and response capabilities, but achieving greater protection will require greater funding. To establish and maintain the desired higher levels of protection and to help maximize the effectiveness of actions taken, leadership will also be needed. We believe a single entity within the federal government should adopt the leadership role.

In our Exxon Valdez report, we presented several matters for congressional consideration to help ensure that an effective course of action is developed for improving the nation's capabilities to prevent and respond to oil and other hazardous spills, and to help ensure that sufficient funds are available to support improved prevention and response capabilities. In that report we stated that the Congress may wish to consider

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- designating through legislation a single entity or leader for developing an action plan;
  - establishing a fund, or modifying existing funds, to finance the improvements; and
  - providing the Coast Guard with explicit authority to carry out the role of ensuring adequate response preparations have been made.

We believe our findings for the Philadelphia and New York port areas further support these considerations. As we have noted in this report, the last two considerations are addressed in bills passed by the Senate and House in 1989. Regarding the last consideration, Coast Guard officials stated that the new authority will require substantial additional resources and clarification of federal liability relating to the use of approved plans.

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## Objectives, Scope, and Methodology

Our objectives were, for the ports of Philadelphia and New York, to evaluate oil spill response preparation and capabilities, Coast Guard authority to manage responses for these ports, and measures that can be taken to help prevent major oil spills from occurring in the future. We conducted our work from May through September 1989 primarily by interviewing Coast Guard officials in headquarters, Philadelphia, and New York, and by reviewing relevant reports and documents. Details of our objectives, scope, and methodology are contained in appendix II.

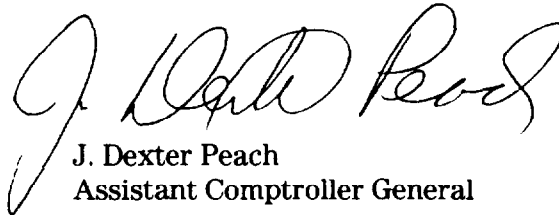
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As you requested, we did not obtain official agency comments on a draft of this report. We did, however, discuss our findings and conclusions with Coast Guard headquarters and local officials. We performed our work in accordance with generally accepted government auditing standards, under the direction of Kenneth M. Mead, Director, Transportation Issues, who can be reached at (202) 275-1000. Appendix III lists the major contributors to this report.

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As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after the date of this letter. At that time, we will send copies to the Secretary of Transportation, the Commandant of the Coast Guard, and other interested parties.

Sincerely yours,



J. Dexter Peach  
Assistant Comptroller General



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## Abbreviations

COTP	Captain of the Port
GAO	General Accounting Office
OSC	on-scene coordinator
PIRO	Petroleum Industry Response Organization
RCED	Resources, Community, and Economic Development Division
VTS	Vessel Traffic Service

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# Coast Guard Analysis of Adequacy of Spill Response Resources in the Philadelphia and New York Ports

The Commandant of the Coast Guard, after the Exxon Valdez spill and as a result of the Congress' recent focus on contingency plans, identified certain important issues, including existing shortfalls of response resources, that should be addressed in local Coast Guard plans. Consequently, all on-scene coordinators were required to report personnel and equipment shortfalls identified during their planning process.

## Philadelphia Port Resource Capabilities

The Captain of the Port, Philadelphia, drafted the following response for spills of approximately 1.5 to 2 million gallons, a worst case spill for the port:

“Obtaining sufficient personnel to assist with cleanup efforts has proved to be difficult. Many local cleanup contractors are small companies with only a few people on hand. Other companies are large, but have offices spread out over a large region. In addition, none of the companies keep a large number of personnel on hand in case a major spill occurs. They are performing jobs in other areas of their business and may not have any personnel available at the time you need them. An estimated 1,200-1,500 civilians will be needed to assist in various cleanup operations for spills around 1.5-2 million gallons. At best, only 1,000 civilians from 17 different cleanup companies can be obtained. All of the available companies have to rely on other sources to increase their staff. Each company typically obtains extra personnel from other firms, a labor pool (temporary labor supplies), part-timers, or state unemployment offices. Many of these alternatives are not a guarantee that extra personnel can be obtained.

“It will take all of these cleanup companies a number of hours to mobilize their personnel. Approximately 300 personnel are available on call at any time. The following is a list of how many personnel from the 17 companies could be on scene in a certain number of hours. It is estimated that only about 500 personnel can be obtained for a response.

a) Within 6 hours	419 personnel
b) Within 12 hours	575 personnel
c) Within 24 hours	726 personnel
d) Within 36 hours	881 personnel
e) Within 48 hours	1,008 personnel

“Although the contractors stated that they could have over 1,000 people on scene within 48 hours, it could take as long as 3-5 days to provide that number of people if the spill occurs on a weekend or holiday. In addition, these people can be provided only so long as they are not doing any other work or responding to oil spills in other areas. We believe that the actual number of people that could be provided for cleanup operations will probably be much less than the stated amounts.

**Appendix I  
Coast Guard Analysis of Adequacy of Spill  
Response Resources in the Philadelphia and  
New York Ports**

“The Coast Guard Marine Safety Office, Philadelphia, will be severely undermanned in the event of a 1.5-2 million-gallon spill. We estimate that approximately 250 personnel will be needed to conduct operations and support. If the spill has to be federalized, then we estimate that approximately 450-500 personnel will be needed. This does not include personnel from the Strike Team that will be needed. Our staff can be augmented by Coast Guard Reservists as well as active duty members from other units.

“... There is an inadequate supply of response equipment available locally to be able to respond to a very large spill. Many contractors do not keep a large inventory of equipment that is expensive and may be used very little. In addition, some of the listed equipment could already be in use in other projects or oil spills at the time that they may be needed locally. Many of the contractors are not within the local or regional areas and will take some time to be on scene if called upon.

“The following is a basic list of personnel and equipment that are available provided all 17 contractors were available and not busy, as well as what we estimate will be needed:

	<b>Personnel needed</b>	<b>Personnel available</b>
Coast Guard	500	100
Contractors	1,200–1,500	1,000
	<b>Equipment needed</b>	<b>Equipment available</b>
Inner harbor boom	75,000 feet	66,350 feet
Sorbent boom	75,000 feet	40,000 feet
Deep sea curtain	25,000 feet	5,000 feet
Vacuum trucks	50	55
Vactors	10	10
Skimmers	12	2
Oil storage bladders	3 million-gallon capacity	none
Oil storage tanks ashore	3 million-gallon capacity	none dedicated*
Lightering barges	3 million-gallon capacity	none dedicated*
Workboats	100	101
Workboats (over 26 feet)	20	none
Command post trailers with communications	4–6	none
Radios	200	24
Cellular telephones	20	8
Beepers with display/voice feature	60	none
Fax machines for all command posts	6–8	2
Passenger vehicles	25	7

\*These will never be dedicated, but there are resources available locally to meet these requirements. It will depend on whether or not the tanks or barges are full and/or available and the type of product spilled vs. what type of products the tanks hold.

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**Appendix I  
Coast Guard Analysis of Adequacy of Spill  
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“There is a need for backup communications equipment. All radios . . . available for use are limited in their range and battery life. Cellular telephones are also limited in their battery life, and are only useful so long as they are within range of an available network and so long as the network is not tied up with other users.

“Currently there is an inadequate number of telephone lines at the base. While there are 200 telephone line connections, only 12 are active. This means that in the event of a major spill, there will be a flood of incoming and outgoing calls. All currently available telephone lines will be busy whether or not they are in actual use. This could severely hamper operations and the ability of the OSC [on-scene coordinator] to effectively coordinate response actions. In general, telephone and electrical companies are reluctant to provide emergency service connections without conducting the required credit checks. The Coast Guard needs to make the telephone and electric companies aware of the situation to help ensure rapid hookup services are provided for the base and satellite command posts.”

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## **New York Port Resource Capabilities**

The Captain of the Port, New York, provided this general overview of response capabilities, without reference to a specific worst case spill size:

“As a major industrial area, the Port of New York has tremendous commercial resources available in the event of a major oil spill. The port has vessel repair facilities, a large fleet of tugs and barges, and numerous marine service companies that can assist with different emergency vessel-related incidents. With excellent intermodal transportation links, the port can fully support any out-of-region logistical needs by air, rail, and highway when necessary. In addition, the Port of New York has more than adequate sources of commercially available oil pollution response equipment.

“There are ten pollution cleanup companies in the COTP [Captain of the Port] New York zone with which the Coast Guard maintains basic ordering agreements. These companies maintain varying amounts of oil containment and recovery equipment, including booms, portable skimmers, vacuum trucks, small boats, and trained personnel. If a spill is federalized, the OSC can call any number of them for response to the incident.

“The Clean Harbors Co-op, founded by a number of oil companies in the port, has sufficient equipment to deal with an estimated 40,000-barrel [1,680,000-gallon] oil spill. This includes nine miles of containment booms, six workboats, fifteen deployment boats, seven self-propelled skimmer boats, dispersant spray equipment, a high volume oil transfer system, a mobile command post, and many other pieces of equipment for oil containment and recovery. The resources of this cooperative are available not only to its members, but other parties, including the Coast Guard on a rental basis.

“As a recent development, the Petroleum Industry Response Organization (PIRO) is planning to establish one of five regional response centers in the Port of New York.

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**Appendix I**  
**Coast Guard Analysis of Adequacy of Spill**  
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The New York PIRO center will be equipped for a 200,000-barrel [8,400,000-gallon] oil pollution incident and will be responsible for the New England and Mid-Atlantic areas of the U.S.”

# Objectives, Scope, and Methodology

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On April 13, 1989, Senator Frank R. Lautenberg, Chairman, Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations, asked us to investigate the government response to the Exxon Valdez oil spill, and more broadly, federal policies and practices for preventing and responding to oil spills. As part of that request, he also asked us to examine the adequacy of contingency plans and equipment for the Philadelphia and New York ports. We subsequently met with his staff and agreed that an ongoing Coast Guard assignment would address the Exxon Valdez issues raised. We also agreed to evaluate oil spill response preparations and capabilities, and Coast Guard authority to manage responses for the ports of Philadelphia and New York, and to examine measures that can be taken nationally to help prevent major oil spills from occurring in the future.

We testified on the results of our work on the Exxon Valdez oil spill incident before the Subcommittee on Coast Guard and Navigation, House Committee on Merchant Marine and Fisheries, on August 10, 1989,<sup>1</sup> and issued a follow-up report on October 30, 1989.<sup>2</sup>

For the portion of the request regarding Philadelphia and New York, we conducted our work from May through September 1989 at the U.S. Coast Guard headquarters, in Washington, D.C.; Coast Guard district offices in Boston, Massachusetts, and Portsmouth, Virginia; the Marine Safety Office, in Philadelphia, Pennsylvania; and Group New York, Captain of the Port and the Marine Inspection Office, in New York, New York.

To achieve our objectives, we interviewed Coast Guard officials at the Coast Guard headquarters and at the district and local offices we visited. We also interviewed officials from the Delaware Bay and River Cooperative, Lewes, Delaware; the Clean Harbors Cooperative, Perth Amboy, New Jersey; and oil spill cleanup contractors having agreements with the Coast Guard in the Philadelphia and New York ports. In addition, we interviewed officials from the Pilots Association for the Bay and River Delaware, Philadelphia, Pennsylvania, and the United New York/New Jersey Sandy Hook Pilots Benevolent Association, Staten Island, New York.

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<sup>1</sup>Adequacy of Preparation and Response Related to Exxon Valdez Oil Spill (GAO/T-RCED-89-59).

<sup>2</sup>Coast Guard: Adequacy of Preparation and Response to Exxon Valdez Oil Spill (GAO/RCED-90-44).

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**Appendix II**  
**Objectives, Scope, and Methodology**

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We reviewed pertinent reports and documents at Coast Guard headquarters, district, and local offices. We also attended a July 17, 1989, hearing on the Presidente Rivera oil spill before the Subcommittee on Oversight and Investigations, House Committee on Merchant Marine and Fisheries, and attended a July 13, 1989, hearing on oil spills in the coastal waters off Rhode Island, the Delaware River, and the Houston Ship Channel before the Subcommittee on Environmental Protection, Senate Committee on Environment and Public Works.

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