

Assistant Commandant's Perspective



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*Assistant Commandant for
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Ten years have passed since we faced what seemed insurmountable: 258,000 barrels of crude oil spilled in the pristine environment of Prince William Sound, Alaska. In the decade since the EXXON VALDEZ spill, the Coast Guard has dedicated itself to preventing such a disaster from occurring again, and to being better prepared in case it does.

As a world leader in maritime environmental protection, the Coast Guard actively improves laws, regulations and procedures in partnership with other stakeholders. We have enabled substantial increases in safety and reductions in accidents of all types.

This pamphlet summarizes the prevention, preparedness, and response climate in the United States prior to the EXXON VALDEZ spill, and provides an overview of our efforts since that time.

A handwritten signature in black ink, appearing to read 'R. C. North'.

The Pre-EXXON VALDEZ Climate

The transportation of oil in bulk at sea has been a vital link in our economy for many years. Unfortunately, moving this much oil occasionally results in spills. The effects of these spills, some large and some small, began to drive actions that would prevent them.

Measures were gradually put in place to address many areas of environmental protection, including international treaties and conventions. Our early efforts at prevention focused on incident-specific problems without analysis of deeper trends. From a preparedness and response perspective, contingency plans and exercises typically simulated the actions of government agencies but lacked stakeholder involvement.

Environmental awareness was slowly on the rise. But our prevention, preparedness and response activities did not address the possibility of an oil spill the size of the EXXON VALDEZ, now termed a spill of national significance.

The tanker PUERTO RICAN spilled 25,000 to 35,000 barrels of oil near San Francisco in 1984. The slick reached Pigeon Point and killed about 2,900 sea birds. (Source: Monterey Bay National Marine Sanctuary Internet site)





The EXXON VALDEZ Incident

The EXXON VALDEZ departed the Alyeska Marine Terminal in Valdez, Alaska, on March 23, 1989, en route to Los Angeles, California with just over 53 million gallons of Prudhoe Bay (North Slope) crude oil. Moments after midnight on Friday, March 24, 1989, the Coast Guard Marine Safety Office (MSO) in Valdez was informed the vessel was hard aground on Bligh Reef in Prince William Sound, Alaska. While maneuvering to avoid glacial ice, the vessel had left the tanker lanes and struck bottom on a charted shoal.

What followed was the largest oil spill in U.S. history. Eleven million gallons of crude oil impacted one of the nation's most sensitive ecosystems, eventually spreading over 3,000 square miles and onto 350 miles of shoreline in Prince William Sound alone. That spring the oil moved along the coastline of Alaska, contaminating a national forest, four national wildlife refuges, three national parks, five state parks, four state critical habitat areas, and a state game sanctuary. The toll on marine wildlife included 300 harbor seals, 2,800 sea otters, 250,000 birds and possibly one killer whale.

A number of circumstances combined to complicate the response to the EXXON VALDEZ spill. The magnitude of the spill, which was larger than contingency planning had anticipated, was beyond the physical capability of the skimmers and booms that arrived on-scene over ten hours after the incident and after more than eleven million gallons of oil were already in the water. And, because planning efforts had not envisioned a spill of this magnitude, the initial response operations got off to a slow start.

Eventually, massive quantities of people, vessels, skimmers and booms were brought in to clean up the damage wrought by the accident. Both the Coast



Guard and EXXON developed response organizations that far exceeded the organizational models envisioned by the National Contingency Plan. Several thousand workers cleaned shorelines using techniques ranging from hand-cleaning rocks to high-pressure hot-water washing to applying tiny microbes

to oiled shorelines. A fleet of private fishing vessels known as the “Mosquito Fleet” played an important role in protecting fish hatcheries, assisting the skimmers, and capturing oiled wildlife and transporting them to rehabilitation centers.

After more than three years of intensive work, and billions of dollars to support the operations, formal response operations were concluded. Today, teams led by NOAA, EXXON and the State of Alaska are still engaged in damage assessment and restoration activities.

As a result of the eleven million gallons of crude oil spilled into the pristine waters of Prince William Sound, many reports were produced detailing cause, effect and damages. A task force was comprised of federal agencies, cochaired by the Department of Transportation and the Environmental Protection Agency. This group prepared a report and made suggestions identifying areas for improvement within their organizations.

Congressional Response

Congress responded with the unanimous passage of the Oil Pollution Act of 1990 (OPA 90). OPA 90 fundamentally changed spill prevention and response by making companies ultimately responsible for their actions, and by charging government agencies with taking a more direct role. The Coast Guard grouped the requirements of OPA 90 into five action areas that will be covered in this pamphlet. These areas are:

- **Prevention**
- **Preparedness**
- **Response**
- **Liability and Compensation**
- **Research and Development**

They form the cornerstones of the Coast Guard’s commitment to the stewardship of our environmental heritage.

Prevention

Regulatory Initiatives: We know that the best way to protect the environment is to stop accidents from occurring. OPA 90 directed the Coast Guard to initiate a new suite of regulations to substantially reduce the chances of an incident and to ensure increased preparedness. While many initiatives have been put in place, the following is a summary of representative regulations:

PREVENTION—

- **Double Hull Requirement for Tank Vessels:** established design standards for newly constructed tank ships and tank barges that operate in U.S. waters. All tank vessels must have double hulls in the near future.
- **Operational Measures to Reduce Oil Spills from Existing Single-Hull Tank Vessels:** established operational requirements for certain tank vessels without double hulls, including bridge resource management training, minimum rest for watchstanding personnel, enhanced vessel surveys, and minimum under-keel clearance requirements.
- **Access to National Drivers Register and Criminal Records Review:** permits the Coast Guard to review national driver registration and criminal records prior to issuing or renewing a merchant mariner's license or document.
- **Enhancements to Civil and Criminal Penalty Provisions:** Permit the Coast Guard to take appropriate legal action against polluters.

PREPAREDNESS/RESPONSE—

- **Tank Vessel and Facility Response Plans:** requires certain tank vessels and facilities to develop response plans to enhance private sector planning and capabilities to minimize the impact of spilled oil.
- **Shipboard Oil Pollution and Emergency Plans (SOPEPs):** These are the result of an international treaty called MARPOL 73/78, requiring oil-carrying vessels over a certain size to have emergency plans.

LIABILITY AND COMPENSATION—

Financial Responsibility for Water Pollution from Vessels: Vessel owners or operators must establish and maintain evidence of insurance



sufficient to meet the potential liability from an oil or hazardous materials spill.

In all, OPA 90 resulted in over 40 Coast Guard rulemaking projects that will help “break the chain” of events leading to a spill.

VALDEZ spill transposed on East Coast.

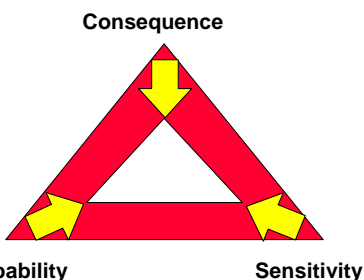


Non-Regulatory Initiatives: Regulations by themselves can't do it all; which is why the Coast Guard is also working on non-regulatory initiatives. Two of the most fundamental aspects of accident prevention are understanding where the greatest risk of an incident might occur and understanding how human interactions impact the chain of events that may increase or decrease the risk. This understanding led to the development of several initiatives.

Prevention Through People (PTP): One of the most important partnership initiatives by the Coast Guard since the EXXON VALDEZ, PTP is a systematic, people-focused approach to reducing casualties and pollution. The PTP approach recognizes that safe and profitable operations require the constant and balanced interaction between *management*, the *work environment*, the *behavior of people*, and the *appropriate technology*. It encourages companies to assess and improve their safety posture. From enhanced training at all organizational levels to the Streamlined Inspection Program to human factors engineering, PTP is the Coast Guard's cornerstone strategy for guiding the maritime community's efforts in pursuit of safety and environmental protection.

Risk-Based Decision Making: Risk-Based Decision Making provides a process that ensures that all available information is considered and balanced against the decision at hand to obtain the best decision. Optimal decisions are not necessarily those which achieve a perfect outcome, but rather are those which are the most appropriate given the information, values and goals for the particular situation. By applying the principles of probability (the likelihood of some event occurring), consequence (the environmental, monetary and non-monetary “costs” of an event) and sensitivity to countermeasures (susceptibility to risk management measures), we can begin to evaluate risk. Critical to the process of evaluating risk is the involvement of stakeholders.

Stakeholder Input: One of the big lessons from OPA 90 is the need to include many perspectives in our marine safety and environmental protection efforts. Regional Citizens' Advisory Groups, Area Committees, and other stakeholder groups provide valuable oversight and planning input. They are also an important source of new initiatives.



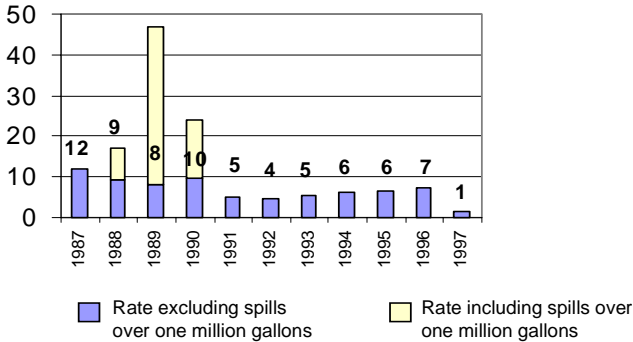
These regulatory and non-regulatory initiatives highlight the balance achievable through the post-OPA 90 strategy.

The following spill data supports the reason the Coast Guard has worked so hard on prevention initiatives.

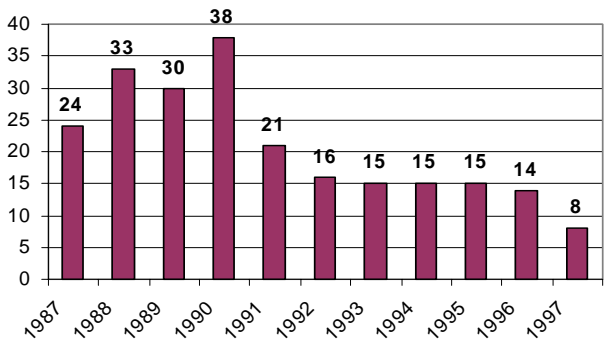
Considering data on oil spills in U.S. waters from maritime sources for the last ten years, we know that since OPA 90:

- The average number of oil spills over 10,000 gallons has dropped by approximately 50 percent from pre-1991 levels.
- The gallons spilled per million gallons of oil shipped has been reduced from an annual average of 10 gallons spilled per million shipped for the years 1987 to 1990 to 5 gallons spilled per million shipped during the years 1991 to 1997—a 50 percent decrease.
- There have been no spills over one million gallons since 1990.
- The total volume of tankship oil spills in the U.S. peaked in 1989 and has remained below 200,000 gallons since 1991.

Gallons of Oil Discharged from Maritime Sources per Million Gallons Shipped



Number of Major and Medium Oil Spills per Billion Tons Shipped



Preparedness

OPA 90 required several key initiatives to enhance the preparedness of responsible parties and government agencies.

Area Committees and Area Contingency Plans: OPA 90 established formation of Area Committees comprised of federal, state, and local officials and charged them with planning for responding to oil spills and hazardous substance releases consistent with the National Contingency Plan. Under the direction of the Federal On-Scene Coordinators, Area Committees are responsible for developing Area Contingency Plans that:

- describe the management system that will be used;
- are adequate to remove a worst-case discharge;
- describe the area covered by the plan, including the areas of special economic or environmental importance;
- describe responsibilities of an owner or operator and all agencies;
- list available resources;
- describe the procedures to be followed for obtaining an expedited decision regarding the use of alternative technologies; and
- describe in detail how the plan is integrated into other Area Contingency Plans and vessel, offshore facility, and onshore facility response plans.

Vessel & Facility Response Plans: Vessel Response Plans and Facility Response Plans serve to coordinate Responsible Party actions with the Federal On-Scene Coordinators and local response strategies. They ensure required resources are planned for and available for immediate use.



Today, virtually all marine transportation-related facilities have approved response plans. In 1998, the Coast Guard updated and reviewed approximately 850 Vessel Response Plans covering approximately 7750 vessels.



To demonstrate how these plans work, the Coast Guard leads and participates in exercises.

Exercises under OPA 90: With the enactment of OPA 90, the Federal government needed to determine the most efficient manner to exercise these new contingency plans. A valuable lesson from the EXXON VALDEZ was the need to exercise for a spill as realistically as possible. The Preparedness for Response Exercise Program (PREP) was developed to establish a workable exercise program. A unified federal effort, it satisfies the exercise requirements of the Coast Guard, Environmental Protection Agency, the Research and Special Programs Administration's Office of Pipeline Safety, and the Minerals Management Service.

Today, PREP is comprised of a series of internal and external exercises. The internal exercises are required under the Facility and Vessel Response Plan regulations. Any industry may use PREP to meet the regulatory exercise requirements, however, they may develop their own exercise system if so desired. PREP is voluntary. To adequately ensure a response plan is effective, it must be exercised wholly within the organization, as well as within the context of the response community. The external exercises include large scale Area exercises for both industry and government. These exercises are conducted with public and private members of the response community and include many of the stakeholders. These exercises validate the readiness of all members of the response community.

To prepare for an incident the size of the EXXON VALDEZ, the Coast Guard developed procedures for a Spill of National Significance (SONS). A SONS is that rare incident that severely impacts human health and/or the environment, and far exceeds the response capabilities of regional assets. Two SONS exercises, including one in Prince William Sound, have been held since the implementation of this program.

As a result of our preparedness efforts, we are more sensitive to all aspects of spill response, thereby creating a higher state of readiness.

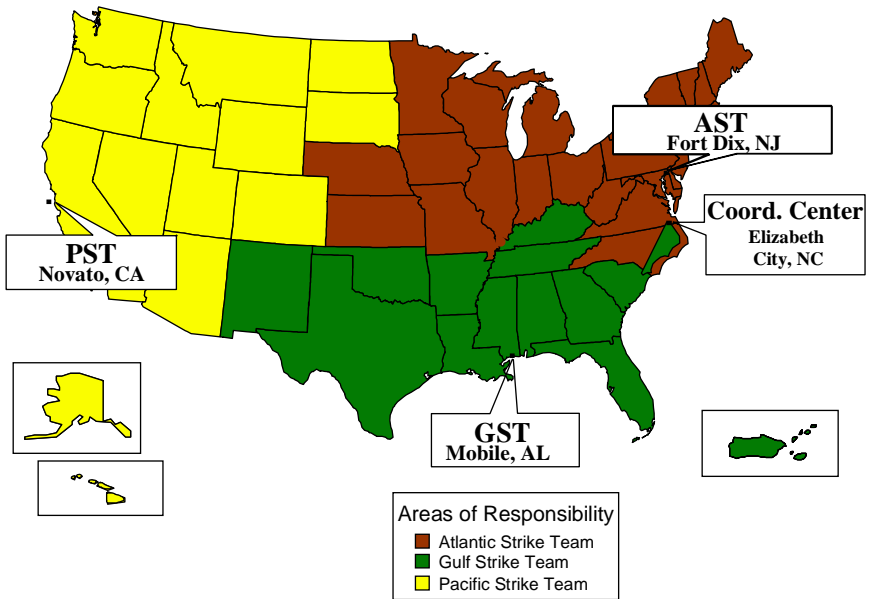
Response

As pre-designated Federal On-Scene Coordinators under the National Contingency Plan, the Coast Guard's responsibility is to ensure a safe and effective response to all discharges into the marine environment. Since the passage of OPA 90 our response capability and readiness has increased substantially through a number of initiatives. The most recent of these, "Best Response," can be described as an overarching goal to minimize the consequences of a pollution incident by fully integrating the capability of our people, tools and processes. The initiatives described below are subsets of Best Response.

Response Management System: The National Contingency Plan requires On-Scene Coordinators (OSCs) to direct response efforts and coordinate all actions at the scene of a spill or release. There are 47 OSCs at Marine Safety Offices and Activities located at strategic ports around the country. A response management system brings together federal and state governments, and the responsible party, to achieve an effective and efficient response, where the OSC retains ultimate authority. This structure is commonly referred to as a Unified Command. In 1996, the Coast Guard adopted the National Interagency Incident Management System Incident Command System as its standard response management system for all pollution incidents. It was originally designed by a group of local, state, and federal agencies with fire protection responsibilities to improve their ability to respond to any type of emergency. This all hazard/all



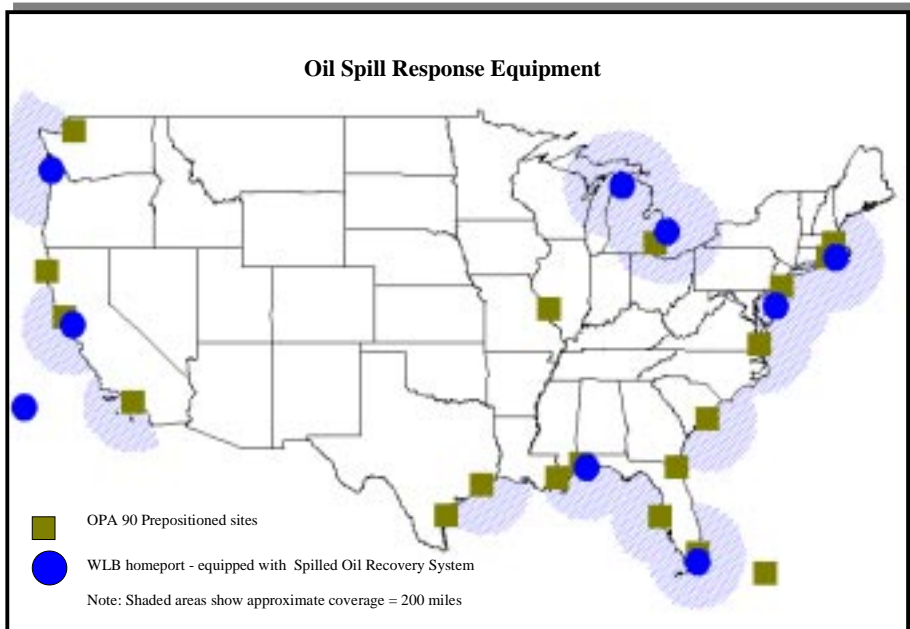
National Strike Force



risk response management system has enabled much more effective response efforts since its adoption.

National Strike Force (NSF): The National Strike Force was created in 1973 as a Coast Guard special force under the National Contingency Plan. The NSF provides highly trained, experienced personnel and specialized equipment to the Coast Guard and other federal agencies to facilitate preparedness and response to oil and hazardous substance pollution incidents. As a result of the EXXON VALDEZ, in 1991 the NSF gained a third Strike Team at Fort Dix, New Jersey and a Coordination Center in Elizabeth City, North Carolina to provide support and guidance to the three teams. The Center is home to the:

- **Public Information Assist Team (PIAT):** The PIAT provides public affairs specialists to assist Federal On-Scene Coordinators during a response.
- **Response Resources Inventory (RRI) Network:** A publicly accessible database detailing spill response equipment around the world.
- **National Oil Spill Removal Organization (OSRO) Classification Program:** This program provides owners of vessels and facilities an assessment of the capabilities of private industry spill response organi-



zations. The NSF audits OSROs and maintains an on-line computer system that accurately calculates an OSRO's capability to respond to specific needs.

- Propositioned Equipment:** The Coast Guard maintains a \$30 million inventory of spill response equipment at 22 strategic sites near major port areas. Each site includes a Vessel of Opportunity Skimming System (VOSS) and 5,000 feet of foam-filled boom. The NSF is responsible for national oversight of the equipment maintenance program.

First Aid Response Equipment: Most operational units in the Coast Guard have been equipped with small amounts of spill response equipment that can be deployed until more sophisticated equipment arrives depending on the needs of the responders.

District Response Advisory Teams: A team was established at each of the nine Coast Guard District offices to ensure the preparedness and integration of all Coast Guard assets for spill response. As a result of their efforts, diverse assets including ships, aircraft, spill response equipment, and the personnel that are the core of the Coast Guard have been through extensive training.

Together, these assets make up a package that has significantly enhanced our ability to respond to disasters when they occur.

Liability & Compensation

National Pollution Funds Center (NPFC)

Title I of OPA 90 addresses the nation's comprehensive Liability and Compensation mandates for response to oil spills occurring in the navigable waters of the United States. Among its many new and broad provisions, OPA 90 authorized specific uses of the Oil Spill Liability Trust Fund (OSLTF) to drive this compensation capability.

Created under the authority of OPA 90, the National Pollution Funds Center, located in Arlington, Virginia, has responsibility for implementing the liability and compensation provisions of the Act, which includes serving as the fiduciary agent for the Oil Spill Liability Trust Fund (OSLTF). NPFC also has financial oversight for the portion of the EPA Superfund accessible to the U.S. Coast Guard. From its operational commissioning in February 1991, NPFC has executed programs that accomplish the following functional objectives:

- **MANAGING THE BILLION DOLLAR OIL SPILL LIABILITY TRUST FUND**, which is composed of two main parts; a \$950 million principal fund used for claims and appropriations by Congress, and a \$50 million emergency fund specifically appropriated to pay for removal costs, state access, and initiation of natural resource damage assessments. Current sources of revenue replenishment include interest on the principal Fund, costs, fines and penalties recovered from responsible parties and residual transfers from previous funds. Distinct components of this Fund management accomplished by the NPFC are to:

- ◆ **Fund Removal Actions:** Provide funding to Coast Guard and EPA Federal On-Scene Coordinators (FOSCs) and other state and federal agencies to permit timely oil and hazardous material removal actions. As of September 1997, NPFC has handled the financial management of over 4,000 oil pollution cases totaling approximately \$284 million from the Emergency Fund component of the OSLTF;
- ◆ **Compensate Claimants:** Compensate federal, state, and third party claimants who demonstrate that they incurred certain damages caused by oil pollution, including Natural Resource Damages. This is a new aspect, which did not exist under previous funding regimes of the Clean Water Act. Since March 1992, almost 2,700 claims of all types have been paid from the OSLTF, totaling about \$18 million. Outreach to potential claimants has



included the development of a detailed *Claimant Information Guide* (in English and Spanish) and an internet-accessible version;

- ◆ **Fund Assessments of Environmental Damage:** Provide funding to federal trustees to initiate Natural Resource Damage Assessments (for oil spills). Technical Operating Procedures for accomplishing this function, as well as for cost documentation in removal operations, have been developed and placed into a comprehensive *OSLTF User Reference Guide*;
- ◆ **Recover Costs:** Recover from Responsible Parties pollution costs and damages incurred by the OSLTF (over \$75 million to date);

- **CERTIFY FINANCIAL RESPONSIBILITY OF VESSEL**

OWNERS: The NPFC also certifies the financial responsibility of vessel owners and operators through the issuance of Certificates of Financial Responsibility (COFRs).

- **MAJOR SUPPORT ACTIVITIES:** To accomplish this broad array of complex financial functions, the NPFC has undertaken a number of initiatives to ensure the most effective and prudent use of these funds.

- **HARNESSING TECHNOLOGY:** NPFC has taken the lead in leveraging available information technology to increase the effectiveness of our functional missions and customer outreach. Examples include: a comprehensive NPFC internet website with vessel COFRs, as well as downloadable cost documentation and claims application forms for direct customer access (<http://www.uscg.mil/hq/npfc/npfc.htm>).

- **INTERAGENCY COLLABORATION:** Over the past several years, NPFC has put in place major interagency agreements and memoranda of understanding with the U.S. Environmental Protection Agency, National Oceanographic and Atmospheric Administration (NOAA) and States regarding access to and effective use of the OSLTF and CERCLA Superfund.

The NPFC is an important player in the national spill response readiness effort, participating in virtually every PREP or SONS exercise conducted within



the U.S., whether government or industry-led, as a “special force” to provide financial management assistance to the National Incident Commander and FOSCs. We have ensured that funding is readily available to remove oil spilled on the nation’s waters and that damages caused by these spills will be restored.



Research and Development

The Coast Guard is a leader in cooperative research and development efforts, actively working with other federal agencies, industry, and research partners from abroad to share resources for R&D projects. As federal spending decreases, such cooperative R&D efforts hold additional promise for the country. The Coast Guard led many important advances in response and prevention. Such efforts are one reason that there are less medium and major oils spills, and that less oil enters the water when spilled. The Coast Guard funded over 30 initiatives in prevention and supported many others since 1989.

We have made significant improvements in high volume in response techniques, training systems and organization. Other noteworthy examples include: Pre-positioned Spill Response Equipment, Multi-agency Team Building Enhancement System, Improved Spill Containment Boom, Vessel of Opportunity Skimming System and On-scene Command and Control System. As the 21st century dawns, many projects hold promise for the future, including: Pollution Incident Simulation, Control & Evaluation System, Waterways Evaluation Tool, and Integrated Navigation Systems.


These are examples of projects that are underway:

- Pollution Incident Simulation, Control & Evaluation System (PISCES)
- Waterways Evaluation Tool (WET)
- Cost Modeling Systems (PACE)
- Integrated Navigation Systems
- Human Performance Standards & Safety in Coast Guard Operations
- Computer Based Training

Future

In 1998, over 276 billion gallons of oil were shipped in and around the United States. To meet the demand for oil, tankers have grown in size from World War II vintage T-2 vessels of approximately 17,000 deadweight tons (dwt) to a fleet that now includes behemoths of over 500,000 dwt. But as oil in bulk shipments have increased in size, so have other parts of the marine transportation network. Marine pollution comes not only from tankers but from many other sources including commercial freight vessels, fishing vessels, recreational boaters, and shore-based facilities.

While we have made positive strides in preventing pollution in all of these areas, we must look to our customers, the American public, for the future. There are many issues that must be considered if we are to successfully achieve a lasting balance between the transportation, energy and industrial needs of the country and our environmental heritage. To name a few:

- Defining critical success factors for a best response;
 - Improving salvage and fire fighting;
 - Rapidly identifying resources at high risk;
 - Using oil spill simulators to test risk to geographic areas;
 - Enhancing command and control organizations;
- 
- Using more effective lessons learned systems;
 - Increasing safety through partnerships with stakeholders; and
 - Increasing navigation safety through use of new information technologies and improved vessel traffic management systems.

In order to ensure that the direction the Coast Guard takes during the next ten years meets the needs of our customers, we intend to solicit areas of concern and ideas for improvement from our customers. Through this we hope to identify areas for improvement, implement promising ideas and build future partners. These will then be considered as we build our strategic and annual business plans to safeguard our environmental heritage.

U. S. Coast Guard Districts

WHEREVER AMERICA NEEDS US



PROTECTING THE ENVIRONMENT

How to Contact us:

First District
(617) 223-8439

National Response Center*
(202) 267-2675

Fifth District
(757) 398-6637

National Maritime Center
(703) 235-0002

Seventh District
(305) 536-7381

Marine Safety Center
(202) 366-6480

Eighth District
(504) 589-6271

National Pollution Funds Center
(703) 235-4700

Ninth District
(216) 902-6045

Marine Safety Laboratory
(860) 441-2645

Eleventh District
(510) 437-2940

National Vessel Documentation Center
(304) 271-2506

Thirteenth District
(206) 220-7210

National Strike Force Coordination Center
(919) 331-6000

Fourteenth District
(808) 541-2114

United States Coast Guard Internet Site
www.uscg.mil

Seventeenth District
(907) 463-2210

***To Report Oil & Chemical Spills**

1-800-424-8802

Summary Points

- Oil spills have dropped 50%. From 1994-1997 1.5 gallons of oil were spilled per million gallons shipped, and since 1991, there have been no oil spills over one million gallons.
- The Coast Guard has achieved numerous prevention milestones through the development of both regulatory and non-regulatory strategies. Despite the best prevention efforts, we must ensure our preparedness to respond to a spill of any size.
- Our nation's preparedness for oil spills is at an all time high.
- Our response personnel have better systems to fulfill their missions. Both industry and government assets are strategically distributed and well-maintained.
- We have refined our funding mechanisms and increased our ability to manage large spills.
- We have advanced oil spill technology and prevention through active partnerships.

The Coast Guard will continue working with all stakeholders in the next millennium, as we improve our prevention, preparedness and response posture.

