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DEPARTMENT OF TRANSPORTATION

U. S. COAST GUARD

STATEMENT OF

REAR ADMIRAL ROBERT C. NORTH

ON

OIL SPILL PREVENTION

BEFORE THE

SUBCOMMITTEE ON COAST GUARD AND

MARITIME TRANSPORTATION

OF THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

HOUSE OF REPRESENTATIVES

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Good morning, Mr. Chairman and distinguished members of the Committee. I am Rear Admiral Robert North, Assistant Commandant for Marine Safety and Environmental Protection for the United States Coast Guard. As such, one of my responsibilities is to ensure Coast Guard Marine Safety professionals perform their statutory responsibilities to protect the maritime environment from pollution.

The Coast Guard's pollution prevention program is based upon a regulatory regime for vessel and facility design and equipment, operations and operational practices; as well as proper waterways management, navigation safety and the human element. I intend to discuss these various facets of the Coast Guard's pollution prevention program.

Our Environmental Protection mission has gradually developed in response to a series of catastrophic events which started in 1917. The increased environmental awareness of the early 1970's resulted in legislation giving the Coast Guard primary responsibility for maritime pollution prevention. The Federal Water Pollution Control Act of 1972 (FWPCA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) were enacted, tasking the Coast Guard with preparing for marine pollution incidents. The Ports and Waterways Safety Act of 1972, as amended by the Port and Tanker Safety Act of 1978, provided local Coast Guard Captains of the Port (COTP) with additional authority to control the activities at waterfront facilities and of vessels in U.S. waters. Under these acts and the Act to Prevent Pollution From Ships (the U.S. ratification of the international MARPOL 73/78 protocols), the Coast Guard promulgated a set of comprehensive pollution prevention regulations for ships and waterfront

facilities which included: inspection and compliance programs for vessels carrying oil and hazardous cargoes; procedural and personnel requirements for oil transfer operations; construction requirements such as Segregated Ballast Tanks; and operational requirements such as Crude Oil Washing.

The grounding of the EXXON VALDEZ in 1989 which resulted in the largest oil spill in U.S. waters heightened national interest in environmental protection. This accident led to the promulgation of the Oil Pollution Act of 1990 (OPA 90). This is the largest marine safety task the Coast Guard has ever received and resulted in sweeping changes in the way oil and chemical transportation is conducted in the United States and throughout the world.

OPA 90 required over 90 individual implementing actions and more than 40 rules. Most of these provisions focused on prevention, including new construction, manning, and licensing requirements. The Coast Guard has completed all of the non-rulemaking initiatives and 88 percent of the rulemakings. The remaining 12 percent have been identified in the Department of Transportation Regulatory Plan and Regulatory Agenda.

I would like to point out that these rulemakings have been developed in a climate of extremely high public interest and diversity of opinions. OPA 90 was a truly imposing task. It required changes in virtually every aspect of the oil transportation industry. It involves new construction requirements, operational changes, response planning, licensing and manning mandates, and increased liability limits. The Coast Guard has worked hard to give a fair hearing and evaluation to the many innovative concepts presented to us as we developed the OPA 90 regulations, and never at the expense of straying from the Act's clear fundamental mandates.

The most prominent pollution prevention standard in OPA 90 is the requirement for new double hull construction. This provision also required that existing single hull tank vessels be retrofitted with a double hull or, beginning in 1995, be phased out of operation by 2015, with the phase-out schedule specified in Section 4115 of the OPA 90.

The Coast Guard did evaluate various alternative concepts to the double hull design, but as stated in our 1992 Report to Congress, the double hull was unmatched in preventing the

majority of oil spills due to groundings when compared to those alternatives. None of the alternatives could match the superior performance of the double hull regarding the key performance measure of Probability of Zero Oil Outflow.

Another major prevention aspect of OPA 90, in addition to double hull requirements, was the requirement in Section 4115 for existing single hull tank vessels to comply with "structural and operational requirements that the Secretary determines will provide as substantial protection to the environment as is economically and technologically feasible." Two supplemental notices of proposed rulemaking which addressed these requirements were published. The development of these complex requirements has been both time-consuming and contentious, but I am happy to report that the final rules have been issued.

The Coast Guard originally proposed protectively located, non-oil spaces as the minimum measure to prevent oil spills because it is the least-costly measure, yet it provides for some margin of safety and protection. At that time, the industry and the public questioned the benefits of protectively located spaces and segregated ballast tanks, arguing that oil outflow after a collision or grounding could be greater with these systems than without them. Other comments identified potential benefits of operational solutions over structural ones. The public recommended improved operational practices and identified practices common among most responsible operators. The comments pointed out that universal requirements for operational measures would have several significant benefits including: they are more easily implemented than structural measures; they would have a more immediate effect than structural measures at much lower costs; and they would level the playing field between responsible operators and their competitors.

In response to these comments, the Coast Guard reexamined the rulemaking options. To maximize the rule's effectiveness while minimizing delay, the Coast Guard implemented a three-pronged approach. Part one was an interim final rule (IFR) issued on August 5, 1994, requiring: (1) on-board emergency lightering equipment, and (2) foreign flag vessels to report vessel information (official number) in their advance notice of arrival.

Part two was a Supplemental Notice of Proposed Rulemaking (SNPRM), published on November 3, 1995, proposing 12 operational requirements, focusing on reducing the risk of a grounding, collision, or fire/explosion on single hull tank vessels. The proposed requirements specifically would apply to (1) foreign and domestic tankships 5,000 gross tons (GT) or more without double hulls and, (2) towing vessels engaged in the transit of both foreign and domestic tank barges (including integrated tug barges) 5,000 GT or more without double hulls. The Coast Guard received 187 comments on this SNPRM. Our review of the comments led to several amendments before two final rules were published on July 30, 1996 and September 23, 1997, respectively.

The Operational Measures Final Rule published on July 30, 1996, which had the last of its provisions go into effect on July 29, 1997, included requirements for: Emergency Lightering Equipment; Bridge Resource Management Policies and Procedures; Vessel Specific Watch Policies and Procedures; Enhanced Surveys; Vital Systems Surveys; Auto Pilot Alarms or Indicators; Maneuvering Performance Capability Tests; Maneuvering and Vessel Status Information; Emergency Steering Capabilities for Towing Vessels; and Towing Vessel Fendering Systems.

The most contentious issue in the original set of operational measures was the under-keel clearance requirement. The Final Rule published on September 23, 1997, requires that management provide the master with written under-keel clearance guidance and the master or operator calculate and log the vessel's anticipated under-keel clearance prior to entering or departing port.

The third and final part was a Final Rule, published on January 10, 1997, which analyzed the potential impact of implementing structural measures to reduce accidental oil outflow from existing single hull tank vessels. OPA 90 stipulated that any measures required for existing vessels in this interim period must be both economically and technologically feasible. Measures examined included protectively located spaces, double bottoms, hydrostatically balanced loading, clean ballast tanks, segregated ballast tanks, combinations of these measures, and other

alternatives submitted in response to our earlier Structural Measures SNPRM. Estimates were gathered for expenses associated with the refitting of vessels in shipyards, lost cargo-carrying capacity due to implementation of a measure that does not allow cargo carriage in certain tanks, and other costs, such as lost revenue during shipyard periods. Historical data from 1991 through 1994 (post-OPA 90 spill history) was used to estimate oil that would be spilled from these vessels through 2015, adjusted for the benefits realized from implementing the operational measures Final Rule. Benefits were then estimated by comparing the difference in the volume of oil spilled with the measures as compared to the volume that would be spilled without the measures over an estimated 18-year period (1996-2015). Although technologically feasible, structural measures were not considered economically feasible and, therefore, no measures were imposed for certain existing single hull tank vessels of 5,000 GT.

The Coast Guard has completed work on a number of other regulations addressing prevention issues as required by OPA 90, including: Vessel Communications Equipment; Tankermen Qualification Standards; Radar Observer License Endorsements for Operators of Uninspected Towing Vessels; Prince William Sound Pilotage Standards; Navigation Underway Rules for Use of Auto-Pilot, Second Officer on the Bridge, and Unattended Engine Room; Lightering Requirements; Plate Gauging Standards; Extension of the Louisiana Offshore Oil Port (LOOP) Safety Zone; Five-Year Term of Validity for Certificates of Registry and Merchant Mariner's Documents; Chemical Testing for Dangerous Drugs; Escort Vessels for Oil Tankers in Prince William Sound; National Driver Register and Criminal Record Review for License Renewals; and Minimum Standards for Overfill Devices.

In order to assess the full impact of the double hull regulations and related requirements from Section 4115 of OPA 90 on the marine environment and the maritime oil transportation industry, the Coast Guard requested the advice of the National Research Council (NRC). The NRC convened the Committee on the Oil Pollution Act of 1990 (Section 4115) Implementation Review under the auspices of the Marine Board. Their report, entitled "Double Hull Tanker Legislation: An Assessment of the Oil Pollution Act of 1990," is scheduled for release to the

public on November 6, 1997. The Coast Guard intends to review the Committee's recommendations for Coast Guard actions. This review should be completed early next year.

Some data already in hand indicates OPA 90 is having a positive impact. The average number of oil spills over 10,000 gallons in the U.S. has dropped by almost 50 percent from pre-1991 levels. In addition, the average annual amount of oil spilled in the U.S. from 1986-1990, before OPA 90 was enacted, was 6.2 million gallons. Post OPA 90 figures (1991-1995) show this average value has dropped to 1.4 million gallons. The volume of tank ship oil spills in the U.S. peaked in 1989 and has remained below 200,000 gallons since 1991.

Not only has prevention improved but so has response to oil spills. The development of commercial capabilities to respond to spills as required by OPA 90, introduction of Coast Guard and International Maritime Organization (IMO)-required response plans, strategic placement of federally owned response equipment, mandate for spill exercises and designation of Qualified Individuals have dramatically improved the timeliness of spill response as well as the magnitude and quality of response efforts.

The Coast Guard recently held the first exercise of our new Spill of National Significance (SONS) response organization in Philadelphia and Washington, DC. A SONS is defined as a large spill of EXXON VALDEZ magnitude or impact that exceeds regional response capability and requires a national level effort.

The SONS exercise was well attended by industry and government and was considered a success in raising a number of national-level response issues and helping to better prepare the national maritime community for a spill of this size.

While many OPA 90 regulations cited here focus on engineering fixes, some of them, such as the licensing regulations, focus on people fixes, or what we call the human element.

It is widely accepted, in both government and industry, that about 80 percent of all vessel casualties and the resulting pollution are related to the human element. Each year, the cumulative costs of fatalities, injuries, oil spills and other marine-related losses is more than $1.5 billion by conservative estimate. While we recognize that it is often necessary to regulate specific

solutions to targeted problems, even human element problems, the Coast Guard believes that the most important initiative for enhancing safety and pollution prevention for the next decade and beyond will be cooperative industry/government partnerships that address the human element.

The Coast Guard has led the way on both the national and international fronts to emphasize the human element. We have been world leaders in implementing the changes to the International Convention for Standards of Training, Certification and Watchkeeping (STCW) and the International Safety Management (ISM) Code. World-wide enforcement of these standards will improve U.S. and foreign flag ship management and seaman training and experience, which will help reduce accidents and prevent pollution.

The Coast Guard has initiated a Prevention Through People (PTP) program to address the human element. Addressing the human element is on the international agenda. It addresses everyone; those in government agencies, mariner organizations, port authorities, classification societies, and the maritime industry. It is not limited to a Coast Guard effort. Industry and government are forming partnerships to improve safety by addressing the human element.

The Coast Guard has formal partnerships with four industry associations: The American Waterways Operators (AWO), the Passenger Vessel Association (PVA), the U.S. Chamber of Shipping (USCS) / American Petroleum Institute (API), and the International Council of Cruise Lines (ICCL). These partnerships have already yielded positive non-regulatory pollution prevention action, including an analysis of causes of spills associated with tank barge cargo transfers, the initiation of a risk management program for the domestic passenger vessel industry, and a study of the communication and bridge resource management aspects of tanker entry into coastal waters. This partnership concept cannot be stressed enough. It is a critical component in making PTP work.

Our partnership efforts are not limited to formal agreements with industry. We are also working with other government agencies. The Coast Guard, together with the Maritime Administration (MARAD), is developing a national reporting system which will enable us to capture information on near-casualties and near-miss marine incidents. The terms near-casualty

and near-miss mean those events or circumstances that, if allowed to progress without interruption and without "last-minute" intervention or just plain luck, would have resulted in an accident (unintended event) or a mishap. The value of these near-casualties is that there are exponentially more of these than there are casualties. The sheer volume of knowledge recoverable from a systematic analysis of these events promises to point the way to those key interventions that should prevent casualties. This project will identify the best approach to analyzing these incidents, capturing the right information, and disseminating it to the right people.

Another area of critical importance to pollution prevention which is high on the Coast Guard's agenda is the improvement of our country's ports and waterways infrastructure to improve navigation safety and prevent pollution from vessel groundings and collisions. Our port infrastructure is more than wharves, piers, warehouses and cranes. It also includes the waterways from the coastal zone to the berth, intermodal interfaces, channels, anchorages, aids to navigation, pilotage services, vessel traffic services (VTSs), and other traffic management schemes that allow vessels to safely transit. United States waterborne commerce is expected to significantly increase in volume into the twenty-first century. The U.S. ports and waterways infrastructure must be able to meet that challenge.

One of the Coast Guard's key efforts in this area is being carried out under our Ports and Waterways Safety System (PAWSS) project. Under PAWSS, the Coast Guard is working closely with local, state and other federal government agencies, waterway users, public interest groups - all stakeholders, to conduct port assessments in the U.S. These assessments will include examinations of risk factors such as current and future traffic densities and patterns; weather; ports' physical characteristics; types of cargoes; and environmental sensitivities. They will also include examinations of available activities that offset these risks, such as traditional aids to navigation; traffic separation schemes; existing VTS; other traffic controls; and pilotage requirements. These coordinated efforts will then focus on accident history rates and draw some comparisons and conclusions concerning relative safety, including pollution threats, of individual ports. Ultimately, these efforts will concentrate waterways safety improvements in those areas

with the greatest need, by first looking at using traditional aids to navigation and traffic control measures and then, in those areas where unacceptable vessel traffic management and safety problems remain, at the need for new VTSs.

Additionally, the Coast Guard is increasing its overall emphasis on ports and waterways safety through its leadership of the Interagency Committee on Waterways Management and increased interaction with ports and waterways users and stakeholders to determine what is required to have world class U.S. ports and waterways in the twenty-first century.

In summary, the Coast Guard has worked hard to improve maritime safety and protect the environment. There is still much work to be done. While we will continue to seek engineering improvements like the OPA 90 regulations noted earlier where appropriate, we see large gains to be made in the future through the human element and safety of navigation in marine operations. This offers the greatest potential for real-world improvements in pollution prevention. We will continue to explore non-regulatory solutions to problems. As an agency, we are familiar with issuing and enforcing regulations. It will take dedication, courage, and commitment for us and our customers to expand our paradigm and make initiatives like PTP work. However, it is imperative that we make it work.

Thank you for the opportunity to discuss this important topic with you this morning. I would be pleased to answer any questions you may have.