The Oil Pollution Act of 1990: A Solution or a Problem?

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The Oil Pollution Act Of 1990: A Solution or a Problem?

by
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THE OIL POLLUTION ACT OF 1990: A SOLUTION OR A PROBLEM?

I. Overview

The signing of the Oil Pollution Control Act of 1990, Public Law 101-380, (OPA '90) on August 18, 1990 was a significant landmark in the struggle to control pollution by oil and the activities associated with the recovery, transport, and refinement of oil and associated products in the territorial waters of the United States, and was long overdue. The aftermath of the Exxon Valdez spill, which was the impetus that finally prodded Congress to pass the oil spill legislation that had been under consideration for years, has been filled with controversy over how the spill occurred, how the clean up was handled, how the payment of compensation to the victims involved will be handled, environmental damage, and the question of how safe are these tankers that are daily operating in U.S. waters. All agreed that the situation with regard to oil spills and oil transport as existed under U.S. law prior to the passage of OPA '90 was untenable and had to be modified. The question remains, however, as to whether OPA '90 as currently written is the solution that was required or not. As with all legislation that is concerned with preventing damage to the environment and with correcting the damage that does occur, there will be costs to society that will have to be incurred to carry out these programs. These costs may be viewed as being applied to a specific industry or industries, as in this case the oil industry and the related portion of
the shipping industry involved with the transport of oil and oil products, but eventually society as a whole pays a portion of these costs, either in the form of higher prices, lost jobs, higher taxes, lower return on capital investment, or in damage to the environment. This paper is a discussion of provisions of OPA '90, whether this was sound legislation or a hurried response to a public outcry, the possible effects of OPA '90 on the shipping industry and oil industry as well as related industries, and some proposals on where OPA '90 needs to be amended and how to best induce cooperation and compliance from the shipping and oil industries. As this is an ongoing issue with new facts and details coming to light almost daily, this paper will be restricted to the state of events as of September 1991.

II. Background

A. What caused OPA '90 to come about.

1. Recent History of Oil Spills:

Oil is the fuel of modern industry. The Western industrialized nations are heavily dependent on oil imported from the oil producing nations, particularly from the members of the OPEC cartel. The primary method of transporting the oil is by tanker, since many of the industrialized nations of the world do not have a readily available supply of oil close at hand. Even nations such as the United States, with a large supply of indigenous oil, imports up to fifty percent of its oil requirements from other nations simply because the foreign oil is cheaper than many of the domestic sources. In addition, the United States transports 25 per cent of its domestic
production by tanker from the Alaskan port of Valdez, the terminus of the Trans-Alaskan Oil Pipeline, to other U. S. ports. The Global 2000 Report to the President of the United States by the United States Council on Environmental Quality (1980) estimated that there would be a 3.3 to 4.4 percent annual increase in the demand for oil.

The first tanker (a ship carrying oil in tanks as opposed to barrels) was built in 1885, and the first diesel-powered ship crossed the Atlantic in 1911. These developments, while a boon to world shipping, were also the beginning of oil pollution at sea as ships switched from coal as a fuel, which was not a serious threat to the oceans, to oil, which definitely was. Evidence of oil pollution along European coasts was becoming widespread during World War I, mostly due to shipping lost as a result of the war. A recent article in IMO News stated that in 1928, according to the Financial Times of London, 500,000 barrels of oil a year were being dumped into the sea by ships, mostly as a result of routine operations.

Oil and petroleum-related products are shipped principally by sea due to the relatively inexpensive costs per ton of water-borne transport. This includes transport by barge along coastal waters, as opposed to pipelines, rail or truck. Water pollution from tankers and barges, both as a result of accidental spills and from routine discharges during normal operations is estimated to be at a level of 2.13 million metric tons per year. Accidental oil spills are

1 "Key sections of Alaskan Pipeline are rusting:...", The New York Times, April 1, 1990.


believed to account for approximately 25 per cent of this total. Until relatively recently oil spills and operational discharges were considered to be of minor impact and little attention was paid to the effects of this pollution. Since the Torrey Canyon disaster in 1967 public attention to oil spills and their effects has grown, culminating in the United States with the outcry that followed the string of spills in 1989 starting with the Exxon Valdez in Alaska (March); the World Prodigy in Narragansett Bay (June); a tug and barge in the Houston Ship Channel (June); and the Presidente Rivera in the Delaware River (June); as well as the February 1990 spill by the American Trader off the shore of Huntington Beach, California. These spills, combined with the growing concern over water quality in the wake of rising public outcry over such issues as plastic waste at sea and the discovery of medical waste on beaches, finally prodded Congress into action and produced OPA '90.

Operational discharges while on the high seas are a serious problem and also need to be dealt with, but the most notorious oil spills have occurred in or near coastal waters and the effects of a spill in these waters are nothing short of devastating to the environment. The United States suffers about 7,000 spills per year, and about 1,000 of these are serious. While most of these are not at the level of the Exxon Valdez incident (to say nothing of the 1978 Amoco Cadiz disaster that was over six times the size of the Exxon Valdez spill or of the IXTOC #1 blowout that was eleven

4. Ibid, pg 59.
times the size of Exxon Valdez), the effect on the local environment of even a relatively small spill such as the barge Florida in Buzzards Bay, Massachusetts in 1969 can still be both wide ranging and pervasive. George Hampson of Woods Hole Oceanographic Institute noted that twenty years after the Florida spill the effects on the local environment can still be clearly seen. The cost to society of these spills is tremendous, both in monetary terms (the Amoco Cadiz spill cost $30 million in 1978 to clean up, while the last estimate on the Exxon Valdez clean up may be as high as $2 billion on top of the recent settlement for just over $1 billion for fines!) as well as damage to the environment, the cost of which is still not completely understood but will certainly grow as our knowledge about the long-term effects of oil spills increases.

2. Rational or reactionary legislation?

Congress had been struggling with the issue of oil pollution since the passage of the Federal Water Quality Improvement Act in 1970. Congress has made several attempts over the last fifteen years to pass a comprehensive oil spill bill and create a uniform national program. Passage of the legislation by the Senate proved to be the stumbling block for these bills.

Prior to the Exxon Valdez incident the emphasis had been on attempting to ratify the 1984 Protocols to the International

6. Presentation to the University of Rhode Island Marine Affairs Seminar, November 6, 1990.
Convention on Civil Liability for Oil Pollution Damage (CLC) and the International Convention for the Establishment of an International Fund for Oil Pollution Damage (Fund), a position strongly endorsed by the Commandant of the Coast Guard, Admiral Kime. These Protocols, (discussed in detail in section II.C) would have together provided a maximum of approximately $260 million compensation per incident for the cleanup of oil spills and to the victims of these spills, above and beyond the coverage provided by the vessels' insurance. The Coast Guard had been the U.S. representative to the International Maritime Organization (IMO) conference on the 1984 Protocols and had consulted closely with Congress as to the major domestic objectives that needed to be met during the conference. In fact, the original wording of the Protocols were negated at the direction of the Senate, and concessions were made to the U.S. position (principally to raise the limits of compensation to the present level) with the understanding that the U.S. would ratify the Protocols. When the U.S. failed to so, we were seen as having negotiated in bad faith and as such having little creditability (or leverage) in future negotiations.

A major point of contention during debate over the Protocols in Congress had been the issue of preemption of states authority to impose regulations and liabilities. The majority of these objectives

12. Investigation into Coastal Oil Spills, pg 6.
were met, but the Senate still would not ratify the Protocols after they had been submitted by the Reagan Administration. The refusal of the Senate to budge on this issue of preemption is an unfortunate case of short-sighted politics, as without the international Protocols in force, a judgement by a U.S. court cannot reach a foreign corporation unless that company has assets in the U.S., as the U.S. has no agreements with any other country to enforce such a judgement.\textsuperscript{13} If a vessel was not bound for a U.S. port but was only proceeding in innocent passage through U.S. waters, the U.S. would not have jurisdiction to take the owner of the ship to court in the event of an accident. Admiral Kime had recommended adoption of the Protocols as they contained specific language that would make a lawsuit settled in a U.S. court binding in both the flag state of the vessel that caused the spill as well as the country where the insurance policy for the vessel was written, so long as all of the states were party to the Protocols.\textsuperscript{14} Settlement of many claims under the Protocols have been processed without litigation.\textsuperscript{15} This would be far more preferable than a case such as the Torrey Canyon spill, where the owner simply walked away from the disaster leaving the victims with no legal recourse. The House passed legislation during the next three sessions that would have implemented the Protocols but the Senate still refused to act. The oil industry wanted one unified code of oil pollution legislation to

\textsuperscript{14} \textit{Investigation into Coastal Oil Spills}, 26 - 27.
\textsuperscript{15} \textit{Oil Spill Liability and Compensation}, pg 40 - 41.
deal with but the states want to maintain their rights to control their local waters, and the Senate leadership would not budge. The Exxon Valdez disaster was the impetus for moving the debate forward towards a resolution.

The original bill that was introduced to the 101st session of Congress as H.R. 1465 was substantially altered when it was finally passed and signed into law as OPA '90. State law was not preempted (the major objection of the Senate to previous legislation) and the international protocols were not implemented. These recommendations, given by many agencies, including the Commandant of the Coast Guard and the State Department, in testimony before the House Committee on Merchant Marine and Fisheries, were ignored in the effort to pass a comprehensive bill. OPA '90, which was drafted as a comprehensive bill to prevent and clean up oil spills, goes on to detail a myriad of activities, such as the requirement for double hulls on tankers, the establishment of oil spill response teams, installation of Vessel Traffic Systems in various ports, and so on. Most importantly, the liability limits are much higher than would be available under the Protocols, and a $1 billion Oil Spill Compensation Fund was created, in recognition of the fact that a spill such as the Exxon Valdez would cause damage that would require an extensive (and expensive) clean up. OPA '90 was a political compromise passed to satisfy the call to do something, not to solve a major problem with a rational solution.

B. Review of specific provisions of OPA '90

1. New regulations:
The passage of OPA '90 has resulted in a number of significant changes to national regulations concerned with oil transport and oil spills. The law finally consolidated the various, often conflicting pieces of legislation that previously were used to prevent oil spills and determine liability in the event of an oil spill. OPA '90 did not preempt state laws nor did it implement any international oil spill conventions. Areas covered under OPA '90 include liability, compensation for damages from an oil spill, prevention, removal of a spill, and penalties for failure to comply with the new regulations concerning oil spills.

The legislation that was superceded or amended by OPA '90 included the Federal Water Pollution Control Act of 1972 (FWPCA), the Trans-Alaska Pipeline Authorization Act of 1973 (TAPA), the Deepwater Ports Act of 1974 (DPA) and the Outer-Continental Shelf Lands Act Amendments of 1978 (OCSLA).

**Liability:** OPA '90 imposes strict, joint and several liability for removal costs and damages upon each responsible party for discharge of oil from vessels and facilities into navigable waters, onto adjoining shorelines, or into waters within the exclusive economic zone of the United States.\(^\text{16}\) Strict liability means that a polluter who causes a discharge to occur is found to be at fault, unless it can be shown that the discharge was completely due to an act outside of the control of the owner, such as an act of God or of war. The owner then is completely responsible to pay for the clean up costs. Joint and several liability means that if there are several

\(^{16}\) OPA 1990, section 1002(a)
polluters, or several owners of a vessel (this can include the operator and a charterer of a vessel as well as the owner in fact), each one is responsible for the damages caused and will pay their proportionate share of the costs to alleviate those damages. The responsible party for a vessel is defined as the owner, operator or demise charterer.\textsuperscript{17} Damages that may be included in claims are:

- Damage to natural resources
- Damage to real or personal property
- Loss of subsistence use
- Loss of government revenues and taxes
- Loss of profits and earning capacity
- Costs of increased or additional public services\textsuperscript{18}

The new limits of statutory liability and removal costs under OPA '90 are as follows:

(1) the greater of $1,200 per gross ton or $10 million for tank vessels of more than 3,000 tons;

(2) the greater of $1,200 per gross ton or $2 million for tank vessels of less than 3,000 gross tons;

(3) the greater of $600 per gross ton or $500,000 for all other vessels;

(4) $75 million, plus removal costs, for offshore facilities;

(5) $350 million for onshore facilities and deepwater ports.\textsuperscript{19}

\textsuperscript{17} OPA 1990, section 1001
\textsuperscript{18} OPA 1990, section 1002(b)(2)
\textsuperscript{19} OPA 1990, section 1002(b)
There is no limitation of liability if the incident was proximately caused by gross negligence or willful misconduct, or by a violation of a federal safety, construction or operation regulation by the responsible party, its agent, employee or person acting pursuant to a contract with the responsible party. Also, there is no limitation if the responsible party "refuses or fails" to report the incident, to provide reasonable assistance requested by a responsible official, or to comply with certain FWPCA orders without sufficient cause. The House version (H.R. 1465) originally had provisions for Oil Cargo Owner Liability, which would have made the cargo owner secondarily liable (after the vessel owner/charterer) for the cost of damages as the result of a spill. This provision caused quite a bit of concern for the major oil companies as this would have required them to have to screen the safety record of the vessel carrying their oil, and to obtain coverage in the event of a spill. The House felt that this would have been a strong incentive for cargo owners to use high-grade transporters and therefore would have been useful in reducing the risk of an oil spill, but the Senate did not agree. The assessment of risk is fairly straightforward, as a cargo owner would only have to check with Lloyd's Register of Shipping to determine what sort of risk a vessel represented, and he would have had a reasonable idea of what sort of risks he was taking. This provision was not included in the belief that ownership of the oil would be too difficult to determine, as oil

20. OPA 1990, section 1004(c)(2)
21. OPA 1990, section 1004(c)(2)
23. Oil Spill Liability and Compensation, pg 167.
is often bought and sold several times during the voyage from the oil field to the refinery. This failure to divide the responsibility between operator and cargo owner is a serious mistake as there is nothing to induce a cargo owner to use a quality vessel as opposed to a one-ship "cowboy" corporation that has no assets in the event of a spill to risk, and so takes only the very minimal precautions.\textsuperscript{24}

\textbf{Financial Responsibility}: Operators of vessels over 300 tons entering the Exclusive Economic Zone of the U.S. are to be able to prove financial security to at least cover the maximum liability requirements under section 1004 of OPA '90.\textsuperscript{25} This may be by a certificate of financial responsibility issued by a P & I club, a surety bond, or some other proof of sufficient resources. Failure to comply with this provision can result in a fine as described below, and may result in the denial of entry or detention of the vessel and the vessel and oil carried as cargo will be subject to seizure and forfeiture.

\textbf{Compensation}: OPA '90 also provides for funds to be available for payment of pollution damages and for the costs of removal, assessment, restoration and operational activities from the Oil Spill Liability Trust Fund, which was established under the Internal Revenue Code as a five cents per barrel tax on oil imported into the U.S.\textsuperscript{26} The Fund will be built up to a level of $1 billion, and will also be available for payment of claims that are not covered by the

\textsuperscript{24} Editorial, \textit{Marine Log}, December 1990, pg 3.
\textsuperscript{25} OPA 1990, section 1016.
\textsuperscript{26} OPA 1990, section 1012(a)
responsible parties' liability coverage.

**Prevention:** Provisions of OPA '90 dealing with prevention of oil spills include alcohol and drug testing, removal of the ship's master if he is under the influence of alcohol or drugs, access to the National Driver Register for applicants for mariner licenses, manning standards for vessels, vessel traffic service systems, establishment of a double hull requirement for tankers, and other measures dealing with vessel safety devices and operation.\(^{27}\)

**Removal Responsibilities:** In the wake of the confusion surrounding the procedures for coordination of the clean up effort for the *Exxon Valdez* spill, provisions were made to clarify responsibility for the clean up. The President is now required to "ensure effective and immediate removal" of a spill, direct and monitor all federal, state and private actions as well as remove and destroy a vessel that is discharging or threatening a discharge.\(^{28}\) OPA '90 also directs the National Contingency Plan for a worst-case oil spill be revised, that a "national response unit" and ten Coast Guard District response groups be created, and the preparation of area, facility and vessel response plans.\(^ {29}\)

OPA '90 and the amendments that it causes to the FWPCA do not, however, expressly provide that the discharger must undertake removal activities. He may be obligated to remove the spill by the President or face severe penalties (discussion to follow) but the statutory basis for this is not explicit.\(^ {30}\)

\(^{27}\) OPA 1990, Title IV.
\(^ {28}\) OPA 1990, section 4201.
\(^ {29}\) OPA 1990, sections 4201(b) and 4202.
\(^ {30}\) Wagner, pg 576.
Penalties: The criminal and civil penalties provided by OPA '90 for oil spill related acts are substantially increased and administrative penalty authority is created in the Secretary of Transportation and the EPA Administrator. Penalties include:

- Imprisonment of not more than three years (five if a subsequent conviction) and a fine of not more than $250,000 for failure to notify the appropriate federal agency of a spill.

- $10,000 fine per violation, not to exceed $25,000 for multiple violations (Class I penalty) or $10,000 fine per violation, not to exceed $125,000 for multiple violations (Class II penalty) for discharging oil into navigational waters. There is now also a fine of up to $25,000 per day of violation or $1,000 per barrel of oil spilled, unless there is gross negligence or willful misconduct involved, in which case the penalty is not less than $100,000 per day or $3,000 per barrel of oil spilled.

- a fine of $25,000 per day for failure to comply with a Presidential order concerning removal action.

- a fine of $25,000 per day for failure to comply with the financial responsibility requirements.

- criminal penalties of $2,500 - $25,000 and one year in prison for negligent violations, $5,000 - $50,000 and three years for knowing violations, and up to $250,000 and 15 years for knowing endangerment.31

31. OPA 1990, sections 4301 and 4303.
2. Studies that are required by OPA '90:

OPA '90 mandated thirty-one rules, regulations or studies that are to be written or undertaken in the next few years. Some were to be completed within six months of the signing of OPA '90, others have no time limit. Some of these involve setting up procedures for carrying out provisions of OPA '90, such as what constitutes evidence of financial responsibility, how the assessment of natural resources damage is carried out, and regulations for obligating the Oil Spill Liability Trust Fund. Others include studies of the deepwater ports to assess risks and costs versus regular ports, whether vessel traffic systems are required or need to be expanded for U.S. ports, and various construction, manning and safety standards for tankers. The full impact of these various provisions are not known at present, and will not be until the studies are completed and the regulations written, but the scope of issues that they deal with promise that the impact on the oil shipping industry will be significant and the manner in which the industry operates will be significantly altered.

3. The effect of OPA '90 on certain government agencies: Several government agencies will be directly impacted by provisions of OPA '90, and others will be effected as the various regulations and studies mandated by OPA '90 are carried out. The President is charged with a number of responsibilities including being responsible for ensuring clean up operations are carried out, amending the National Contingency Plan for a worst case oil spill, reviewing state and local oil spill contingency plans, conduct inspections of oil spill removal equipment, designate
inspections of oil spill removal equipment, designate procedures for obligating money from the Oil Spill Fund, and making adjustments to the liability limits. The Administrator of the EPA and the Secretary of Transportation, as noted earlier, have the authority to bring civil and criminal charges against a discharger of oil. NOAA is to promulgate procedures and regulations concerning the assessment of natural resource damages. But by far the agency that is most effected by OPA '90 is the Coast Guard, as the agent charged to carry out many of the responsibilities assigned to the Secretary of Transportation. The Act specifically assigned 16 different rules, regulations and guidance to be issued by the Department of Transportation, which will be carried out by the Coast Guard, as will the five reports that were also tasked by OPA '90 to the Department of Transportation. These include many of the technical regulations such as tanker safety devices, when tankers may operate on automatic pilot, the specifics of the double hull requirements, and where single hull tankers must be escorted by tugs. The new tasking under OPA '90 will require additional funding, but the specific amount has yet to be identified as was brought out by the Commandant of the Coast Guard during the FY '91 budget hearings.\textsuperscript{32} He also noted that a Vessel Traffic Service System (VTS) costs $25 - $30 million each, and none had yet been funded.\textsuperscript{33} The fear that

\textsuperscript{32} U.S. Congress, House, Merchant Marine and Fisheries Committee, Coast Guard and Navigation Sub-Committee, Coast Guard Budget - Fiscal Year 1991. Hearing, April 1990, pg 69.
\textsuperscript{33} Ibid, pg 20.
the Coast Guard has is that the new tasking it has been given will not be accompanied by sufficient funding, as was the case with the direction for the Coast Guard to take a larger role in the drug war, and the leadership is worried that the resources required to carry out these new taskings will come at the expense of other programs.34

C. Comparison of OPA '90 to international agreements

Since OPA '90 did not ratify current international protocols, the question which must be asked is: Has the passage of OPA '90 helped the international effort or has it undermined the attempts of the International Maritime Organization (IMO) to reach a widespread agreement on controlling oil pollution? In passing this legislation, has the U.S. Congress provided visionary legislation that will lead the rest of the world down a path resulting in safer tanker operations worldwide, or has the international shipping industry been faced with a new, unique standard that will apply to operating only in the U.S. market and will force the shipowners to make some hard choices as to whether to continue to service that market? Could existing conventions and protocols have provided the required controls to prevent oil spills that Congress sought by passing OPA '90? This section is a review of both existing and proposed international agreements and a discussion as to how effective they have been in controlling oil pollution.

1. Background

Since the United Nations was first organized after World War II there have been attempts to organize an international effort to control oil pollution, with varying degrees of success. The Torrey Canyon disaster in 1967 was a major incentive to produce more effective international agreements, and the work continues through today. The United States has supported the majority of these efforts, although there have been disagreements over specifics, such as the appropriate liability limits for shipowners involved in tanker accidents. The passage of OPA '90 now takes the U.S. down a different road than the rest of the international shipping community. OPA '90 contains several provisions that are not part of any current or proposed international agreements, including the requirement for double-bottomed tankers, and the possibility of a shipowner involved in a tanker mishap facing unlimited liability for the cleanup of the accident as well as claims for damages.

2. History of International Conventions
Shipping has long been recognized as an international activity, and as shipping activity increased during the twentieth century the need for international rules and standards to promote marine safety and prevent pollution also increased. Prior to World War II several attempts had been made by both the U.S. and the United Kingdom to achieve an international convention on controlling oil pollution but none succeeded.

After the creation of the United Nations the need for international controls on oil pollution was seen to be even more pressing, as oil pollution from both oil spills and from routine discharges (pumping oily bilge water overboard and cleaning oily
residues from tanks) was increasing at an alarming rate. By 1953 more than 250 million tons of oil were being transported annually (four times the pre-war figure) and over half of the total was crude oil as opposed to refined petroleum products, which is far more dangerous to the environment.\textsuperscript{35} The United Nations created an agency to administer international policy and agreements on maritime matters through the Convention on the Inter-Governmental Maritime Consultative Organization (IMCO), which was convened in 1948 and came into force in 1958. This agency is now known as the International Maritime Organization (IMO). The IMO began with 21 member states and now has 126 states plus one associate member.\textsuperscript{36}

In 1954, since the IMCO convention was not yet in force, the United Kingdom took the initiative to convene an international conference that resulted in the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (OILPOL), the first international treaty concerning pollution from ships to be adopted. The primary feature of this convention was the establishment of zones extending 50 miles from land where the discharge of oil and oily mixtures in excess of 100 ppm were prohibited. Reception facilities in ports to accept oily wastes were also required. The IMCO was named as the agency to administer the convention as soon as it came into being. This occurred in 1958, the same year that the OILPOL convention came into force. The convention was amended in 1962 to extend the prohibited zones, to prohibit any discharge by

new ships of 20,000 tons or more, and extending the application of
the convention to tankers from 500 to 150 tons and above.

OILPOL 54/62 had intended for all tankers to avoid discharge
of oily mixtures into the sea as much as practical and retain them on
board until they could be offloaded in port to a reception facility.
Unfortunately, masters of ships of 20,000 tons or more were
allowed, under the convention, to discharge oily wastes at sea if
"special circumstances made it neither reasonable nor practical" to
retain them onboard. The lack of reception facilities in most ports
gave the masters this justification, and at sea discharges outside of
the prohibited zones were routine.

The tanker industry, recognizing that if nothing was done to
reduce discharges stiffer legislation may follow, and to save more
of the oil for processing rather than being lost overboard, developed
the load-on-top procedure, in which dirty ballast and tank washing
water are retained on board, the oil allowed to separate from the
water, and the (relatively) clean water pumped overboard while the
oil is pumped into a slop tank. Further separation occurs, and more
water is pumped overboard. Upon arrival at the loading port, fresh
oil is pumped on top of the oil from the slop tank. Improved refining
techniques were able to utilize this less pure oil, and the industry
estimated that this method saved 1.6 million tons of waste oil each
year from being lost at sea, both to the benefit of the oil industry
and the environment.37

In 1969 the IMO adopted new discharge criteria as amendments to OILPOL 54. These amendments prohibited discharges except when a tanker was: proceeding enroute, was more than 50 miles from land, the instantaneous rate of discharge did not exceed 60 liters per mile and the total quantity discharged in ballast voyage did not exceed 1/15,000 of the total cargo carrying capacity. The 1969 amendments to OILPOL 54 could be met by tankers using the load-on-top procedure.

In March, 1969, the Liberian flagged tanker Torrey Canyon ran aground in international waters off the Cornwall coast of England and 119,000 tons (36 million gallons) of crude oil washed ashore on the coasts of England and France. Until this spill occurred the emphasis of international controls had been on operational pollution. Now the prospect of a tanker even larger than Torrey Canyon running aground anywhere in the world provided the impetus to pass two new conventions in 1969. The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties established the rights of a state to take action to prevent or mitigate the danger of pollution by oil following accidents by ships outside territorial waters, and entered into force in 1975. The other act was the International Convention on Civil Liability for Oil Pollution Damage (CLC). This placed strict liability for compensation for damages resulting from an oil spill or discharge on the owner of the ship from which the oil escaped. The limits of liability of the shipowner were placed at $150 per ton of the vessel, up to a limit of $14 million per incident.
While it was recognized that these limits were too low to provide adequate compensation in event of a major spill, it was feared that higher limits would have prevented acceptance of the convention by some nations, and then a shipowner would be able to limit his liability to the residual value of the wrecked ship, which in case of the Torrey Canyon could have been the value of a lifeboat that was recovered ($50), the rest of the ship having been a total loss. The International Convention for the Establishment of an International Fund for the Compensation for Oil Pollution Damage (Fund) was passed in 1971 to provide additional compensation to victims of oil pollution in the event that the limits of the CLC convention were inadequate. The fund provides up to $35 million per incident (which can be raised to $70 million by the Fund's Assembly if deemed necessary) after the compensation from the shipowner under the CLC has been exhausted. The Fund is made up of contributions from oil importers and entered into force in 1978. The U. S., on the grounds that the limits of liability were too low, has signed but not ratified either the CLC or Fund conventions. (Note: the limitation amounts in the conventions are actually expressed in gold francs, which are converted into Special Drawing Rights (SDR) of the International Monetary Fund (IMF) on the basis of 15 gold francs to one SDR. The SDR are converted into national currencies in accordance with daily quotations of the IMF. The original limits of the CLC convention were 133 SDR/ ton, up to 14 million SDR/ incident. The combined CLC/Fund limits were a total of 45 million

38. "Oil Spill Liability and Compensation", pg 47.
The decade of the 1970s was the beginning of the environmental movement, and the IMO met in 1973 to consider a new convention to replace OILPOL 54/69. The International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL 73), was a very ambitious attempt to reduce both operational pollution and pollution from accidents, and it was extended to cover all types of pollution at sea, such as sewage, garbage and other harmful substances. Ratification was slow until more tanker accidents occurred in 1976 and 1977, including the Argo Merchant spill in December 1976. This led to another conference in 1978 where MARPOL 73 was modified by the Protocol of 1978. The two agreements are treated as one and are generally referred to as MARPOL 73/78.

MARPOL 73/78 entered into force in October of 1983, and contains provisions that are similar to OILPOL 54/69, but also has several points that result in stronger requirements to prevent pollution. "Oil" is more strictly defined as petroleum in any form to include crude oil, fuel oil, sludge, oil refuse and refined products (other than petrochemicals); the total quantity of oil that can be discharged by new tankers is not to exceed 1/30,000 of the total cargo (half of the amount allowed under OILPOL 54/69); a requirement that oil discharge monitoring and control systems as well as oily-water separating equipment be used during discharge of oil; and the creation of "special areas", where no discharge of oil or oily waste is allowed, which presently are the Mediterranean Sea, the Black Sea, Baltic Sea, the Persian Gulf, the Gulf of Aden and the
Red Sea. Other requirements that were introduced in this convention included construction and equipment standards such as: fitting tankers with oil discharge and monitoring equipment; ships above 400 tons gross tonnage must have oily-water separating equipment; tankers must have slop tanks of sufficient size to retain onboard slops (oily residues and wastes) from tank washing, dirty ballast, and oil residue; the incorporation of segregated ballast tanks (SBT) into new tankers of 20,000 tons or more of sufficient size so that the vessel will not have to use oil tanks for ballast except in severe weather conditions; crude oil washing (COW) systems in new tankers that use crude oil instead of water to clean tanks of residue; and existing tankers of 40,000 tons or more must be provided with SBT, CBT (clean ballast tanks) or COW. Clean ballast tanks are similar to SBT except that SBT systems use a separate piping and pumping system from the oil cargo system while CBT uses the same piping and pumps: hence it is not a true segregated system. Other standards limited the size of oil tanks (to limit the amount of oil spilled if a tank is broken open) and the placement of SBT to protect cargo tanks from rupture in case of an accident or grounding.\(^\text{39}\) The United States has ratified MARPOL 73/78.

MARPOL 73/78 went a long way to reduce the risk and frequency of oil pollution, but did not eliminate it by any means as was shown by the continuing occurrence of oil spills, notably the

\(^\text{39}\) "Implementation of MARPOL 73/78...", pg122.
Amoco Cadiz spill off the coast of France in March 1978. Claims in this case initially were for $2.2 billion but the recent award (which is still under appeal) was for $85.2 million, well in excess of the amounts available to the claimants under the CLC and Fund conventions.

In May 1984 the IMO adopted new levels of compensation that would be more adequate in case of a major spill such as the Amoco Cadiz. The 1984 Protocol to the CLC convention raised the limits of liability to 3 million SDR (approximately $4.06 million) per incident for vessels up to 5000 tons, with an additional 420 SDR ($568) per ton for each additional ton. Maximum liability is 59.7 million SDR ($80.8 million) per incident. The Protocol to the Fund convention raises the maximum level of compensation under the two conventions to 135 million SDR ($182.6 million) per incident. The coverage would rise to 200 million SDR ($270.5 million) when three states with a total annual oil receipts of 600 million tons ratified the treaty. Since the United States alone imported 450 million tons in 1984, this higher limit would almost certainly apply if the U.S. ratified the Protocols. The United States, through the Coast Guard which is the U.S. representative to the IMO, was a key player in the negotiations leading up to the 1984 Protocols. Various attempts were made by Congress to pass legislation that would have adopted the 1984 Protocols, but none were ever passed by both the Senate

41. Van Hanswyk, pg 325.
and the House. Then came the Exxon Valdez spill and Congress reacted with OPA '90. The failure of the United States to ratify the 1984 Protocols is a major reason that other countries have not voted to put them in force until the course that the U.S. will take is clarified, and the path of OPA '90 is not one that other countries are willing to follow, so far.

3. Effectiveness of International Programs

The various conventions that have been passed by the IMO have had success in reducing the amount of oil that has been discharged both deliberately and accidently into the oceans of the world, and have dealt fairly effectively with claims that have arisen from a number of oil spills.

In 1990, the United Nations Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) stated in their report on the State of the Marine Environment that "without the application of OILPOL 54 and MARPOL 73/78 an estimated 8 to 10 million tons of oil would enter the sea directly each year as a result of pumping out oil-contaminated tank-cleaning or ballast water. The amount entering the seas due to maritime accidents has also fallen greatly in recent years thanks to the development of improved standards, navigational aids, training and watchkeeping and traffic separation schemes."\(^{42}\)

According to the International Tanker Owners Pollution Federation, the number of oil spills at sea has declined in the last decade from an annual average of 670 events during the first five

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years to 173 events over the last five. The figures for major accidents (over 5000 barrels or 725 tons) are 20 and seven events annually for the same periods.\textsuperscript{43} A decrease was noted in this report in both the numbers of accidents and the rate at which they where occurring. Lloyd's Register of Shipping showed the number of serious casualties in tankers over 6000 tons averaged 2.5 per hundred ships during 1977-1981 but a rate of only 1.8 from 1982-1986.\textsuperscript{44} While a reduction in the rate of accidents does not mean that less oil is necessarily spilled in a given year, since a few large accidents can result in a greater amount of oil lost than a larger number of small spills would and the large spills, by their very size would cause a devastating impact on the local environment, the reduction is still a good sign that more attention is being paid to safer tanker operations.

A study conducted by the U.S. Department of Transportation and the Environmental Protection Agency on oil spills in the U.S. during transport found that for the period 1972 to 1979 vessels had the lowest rate of amount of oil spilled per billion ton-miles of product carried per year when compared to pipelines, railroads and highways. The pipelines had 50 times the spill rate of vessels (due to the large average size of pipeline spills).\textsuperscript{45}

The IMO reports that the incidence of oil spills at sea over 5000 barrels through 1988 has remained well below the rate of the 1970s, with an annual average of just over 8 per year versus 25 per

\textsuperscript{43} Ibid, pg 21.
\textsuperscript{44} "State of the Marine Environment", pg 21.
year in the 1970s.46

International agreements have not only been effective in reducing the amount of oil that is discharged into the ocean, but they have also dealt fairly swiftly with the compensation of victims injured by an oil spill. Through 1984, the Compensation Fund had dealt with 20 incidents involving member states; 12 in Japan, one off Indonesia and the rest in European waters. Sixteen incidents had been partially or entirely settled as of 1984, often within months of the incident, and the largest payment was in the case of the Tanio spill, which involved a spill of 13,500 tons of oil along the Brittany coast. The final amount of claims agreed to by the Fund totalled FFr 350 million ($37.3 million), with 70 per cent payable under the Fund limits at the time of FFr 245 million. The first payment of 61 per cent of the accepted claims occurred within four years of the incident.47 By way of contrast, the Amoco Cadiz decision on damages awarded was rendered by a U.S. court in 1988, almost ten years after the spill occurred,48 and payment to the claimants has still not occurred due to appeals of the judgement in progress.

In the case of small claims (under $1.5 million), the director of the Fund can settle the claims without approval of the executive committee. The director can also make provisional payments to mitigate undue financial hardship by victims.

48. Van Hanswyk, pg 334.
The Fund can settle claims quickly because it takes an active role early on when a spill occurs, to ensure proper documentation of damages is completed and claims are correctly filed, and to work with the shipowner's insurer so that a quick, fair settlement is reached. The Fund also has a small staff so that there are few bureaucratic delays. Finally, the Fund has access to technical and legal experts who ensure proper action is taken both for mitigation of damages and for submission of claims.

4. Summary

The international conventions that are in force and the IMO itself have proven to be very effective in reducing the level of oil pollution in the worlds' oceans and in achieving a significant level of international cooperation among the maritime nations. The IMO has continued to work to combat oil pollution as was evidenced by a new oil spill treaty that was signed by 90 nations at a conference in November 1990, which calls for the establishment of national and regional systems for responding to oil spills and for increased international cooperation as well as all ships being required to have contingency plans to deal with oil spills. The next conference is scheduled to take place in Brazil in 1992.

The actions of Congress in ignoring the 1984 Protocols and passing OPA '90 have contributed to uncertainty in the shipping industry and have raised the possibility of increasing the risk of oil spills in U.S. waters as major companies decide the risk of unlimited liability outweigh the potential gains and leave the market to small

carriers. Already Shell, Elf and Petrofina have said they will boycott the U.S. market\textsuperscript{50} and others may follow. Additionally, by not implementing the 1984 Protocols, Congress may have lost access to these funds which would have been funded through oil company contributions, and which could have been used to compensate losses due to oil spills with the domestic fund as a backup in case the limits of the international funds were exceeded.

Mr. Bill O'Neil, secretary general of the IMO stated the view of the shipowners quite plainly in a recent article in \textit{Fairplay}: "Owners are not wrangling about standards. All they want is equal application worldwide." A further point to consider is that if the U.S. imposes restrictions and requirements on tankers that wish to operate from U.S. ports, what is to prevent another country from imposing restrictions on U.S. shipping, both tankers as well as other types of shipping?

Finally, Dr. J. A. Crowley listed the advantages and disadvantages of international conventions in a recent issue of \textit{IMO News}. The advantages are: equal degrees of safety for passengers and crew, regardless of flag; free movement within all ports if Convention requirements are met; ease of enforcement by port states since inspections are to Conventions' requirements; greater expertise and experience available in formulating safety standards, regulations and procedures; same standards apply to all ships, allowing predictable behavior, economy of production and reduction in unfair competition; new designs and innovations can be put to the

\textsuperscript{50} "Clubs Re-Think Tanker P&I Cover", \textit{Lloyds Shipping Manager}, September 1990, pg 63.
IMO for consideration and reactions of Member States; reduction in costs to Member States in producing legislation and codes of practice; assurance of respect by ships of Flag States of special areas for pollution prevention purposes and traffic separation schemes; and facilitation of co-operation in such things as combating pollution. Some disadvantages listed by Dr. Cowley are: Convention requirements depend on consensus and must be followed; the pace of change of regulations is limited to a Convention's procedural arrangements and time scale; and a two-thirds majority of Parties to a Convention are required for an amendment.

Rules and standards relating to maritime safety and pollution prevention should be discussed, agreed and implemented at an international level. As a leading maritime nation, the United States needs to be a part of the international shipping community and not operate as a loose cannon.

III. Impact of OPA '90 on the U.S. and world shipping industry

A. Costs of Tanker Operations

While transporting oil by tanker may be the most cost-effective method over long distances, it is not by any means a cheap form of transportation to operate, especially for U. S. flag vessels. As an example, a 200,000 ton tanker cost $90 million to build in the U.S. in 1977, or $40 million to build in Japan. Crew costs for an American crew were $1.7 million a year in 1977, while a Spanish crew for the same period cost $450,000.51 To these costs have to

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be added fuel costs, pilotage and tug fees, provisioning costs, fees for the agent in each port, wharfage charges, maintenance costs, and insurance. With the passage of OPA '90 the limits for liability in case of an oil spill have increased, and the costs for insurance to provide coverage for liability in case of an oil spill will certainly increase to a significantly higher level, although the exact amount of this new level will not be resolved until OPA '90 has been adjudicated in the courts as the result of some future incident that occurs under its provisions. More recent data on shipping costs (but for the period just prior to the passage of OPA '90) based on inquiries with New York based shipping agents indicate that the approximate cost of operating a 100,000 ton U.S. flag tanker (with all of the above mentioned costs and fees included) is $30,000 per day, and $10,000 per day for a foreign flag vessel. Vessels employed in transporting cargo to the Middle East for Operation Desert Shield were chartered at $57,000 per day. These figures are not insignificant, and it must be remembered that the world shipping industry is very competitive, and additional costs are not easily passed along by shipowners to their customers. Therefore, the additional cost of providing the double-hulled ships required by OPA '90, and the cost of obtaining the liability bond to cover the vessel in the event of the spill, not to mention the relative ease of proving negligence under the provisions of OPA '90 which will allow suit to be filed for the full cost of a spill, may lead many shipowners to reach the conclusion stated by Professor Nixon of the University of
Rhode Island Department of Marine Affairs\textsuperscript{52} that the risk of operating tankers in U.S. waters is too high and that American oil companies such as Exxon should get out of the tanker business. If this were to occur, American shipping companies with more highly inspected and regulated ships, better trained crews and better maintained ships than many other nations would disappear from the world shipping industry, causing a large number of secondary effects such as further decline of the American shipbuilding and repair industry, an even more serious lack of U.S flag ships to support the armed forces in event of a conflict, and the further decline of the merchant marine as a career for Americans. This would lead to further transfer of U.S. flag ships to flags of convenience, with all of the problems pointed out by Professors Shaw, Winslett and Cross in their article "The Global Environment".\textsuperscript{53}

In addition to these costs that would be faced by shipowners, there are the costs associated with construction of double-hull tankers (an increase of approximately ten per cent) that will be required under OPA '90. OPA '90 allows double-hull tankers to be phased in over time, and therefore the construction of these tankers should not overly onerous to shipowners, but other costs will have to be allowed for as well. The direct cost of construction of these vessels may be as low as approximately five per cent more than the cost of a single hulled ship\textsuperscript{54}, but the resulting tankers would be

\textsuperscript{52} Presentation to the University of Rhode Island Marine Affairs Seminar, October 30, 1990.
\textsuperscript{53} Shaw et al, pg 162.
larger than a single hulled ship with the same cargo capacity, and therefore these ships would require channels to ports to be dredged deeper, stronger piers to be built, and more tugs to be used during docking and undocking. The advantages of double-hulled tankers include prevention of oil spills (27 of 30 spills studied by the Coast Guard would have been prevented by double hulls\textsuperscript{55}), and the smooth sided tanks that result from the ships' structural members being located between the hulls as opposed to along the bottom and sides of tanks in single hull ships, allowing easier cleaning of tanks and faster discharge rates as well as more complete stripping of tanks, resulting in less oil lost during transfer. Clean ballast tanks can be located between the hulls, which will not only reduce or eliminate the amount of oil pumped overboard during deballasting operations, but will provide more protection in the event of a collision with the tanks placed along the bottom and the sides of the vessel.

\section*{B. How will shipowners cope?}

The reaction from the world shipping industry to OPA '90 was one of shock and dismay, to say the least. Predictions of mass withdrawal from the U.S. market, the collapse of the (pick one) oil industry, shipping industry, marine insurance industry or Western Civilization as we know it were all postulated at one time or another. On the other hand, members of industry such as Douglas Wolcott, the president of Chevron, has said that Chevron will fully comply with OPA '90 and will operate as safely as possible in order to avoid spills. Chevron will (he claims); maintain a top quality

\footnote{\textsuperscript{55} Ibid, pg 86.}
owned fleet, reduce spot charter exposures, control crews, and insist on superior insurance coverage. He also stated that Chevron will continue to charter vessels, with a strict screening process for prospective owners. Of great interest was his statement that Chevron would indemnify these charters for the risks of trading to the U.S.\textsuperscript{56} Another interesting development is the recent television and magazine advertisements by Dupont, the owner of Conoco, which proclaim that they are "pioneering the use of double hull tankers to help safeguard the environment", despite the extra cost of double hulls (15\% is their estimate) and the reduction in oil carrying capacity (a 10\% loss is claimed). Dupont obviously believes that safety and environmental concern is good for business, along the same line as the automobile manufacturers who find that consumers want safer cars and are willing to pay for them.

\textbf{C. What is the potential effect on the American consumer?}

One thing that nearly everyone agrees on is that OPA '90 is going to increase the cost of transporting oil to the U.S. and that these costs are going to eventually be passed along to the American consumer either directly by higher prices or indirectly by higher taxes. While this will bring the inevitable outcry against the oil companies and the government, the American public must be educated to realize that the price of oil has been relatively flat over the last decade when corrected for inflation and that the bill must be paid to have a cleaner environment while at the same time

\textsuperscript{56} Presentation by Douglas Wolcott to the Connecticut Maritime Arbitrators luncheon, November 29, 1990.
maintaining the standard of living that we have come to expect as our right as Americans. As consumers of petroleum products, we must pay a share of the costs as a portion of our responsibility in demanding these products in the first place.

The requirements of OPA '90 are almost certain to cause a rise in oil prices directly and indirectly to the consumer due to the deeply ingrained use of oil and petroleum products in our modern society.

D. Will OPA '90 really reduce the risk of oil spills?

While OPA '90 will cause more equipment to be bought and staged in preparation for the next spill and for contingency plans to be drawn up, there is some question as to whether the coordination of removal operations will proceed as smoothly as was envisioned during the drafting of OPA '90. OPA '90 does not clearly designate the federal government or the discharger as the agent primarily responsible for removal operations. Under previous legislation, the discharger was not statutorily responsible to conduct the removal, and therefore his removal expenses were considered "voluntary" and did not apply against the limit of the discharger's liability.57 Under OPA '90, the President is directed to "ensure effective and immediate" removal, and a discharger that fails or refuses to comply with Presidential orders will face substantial penalties and increased liability.58 While the government's role has been altered, and a discharger's removal costs are no longer considered voluntary so they may be counted against the overall liability of the

57. Wagner, pg 583.
58. OPA. 1003(c)(2) and (3); 1004(c)(2)(B) and (C); 4201 (a) and 4301(b).
discharger,\textsuperscript{59} it is not clear whether the government has been placed in a substantially different role as to management of the removal operation than it was under the FWPCA.\textsuperscript{60} OPA '90 mandates that under the National Contingency Plan the on-scene coordinator, the Coast Guard, the national response team, the area committee representatives and state officials must coordinate their actions with each other.\textsuperscript{61} A responsible party trying to respond to all of these groups will have a difficult time doing so and cleaning up the oil spill at the same time. A single agency should have been given overall responsibility to direct removal operations.

Another significant question is whether OPA '90 cause companies such as Exxon to leave the tanker business and leave the field to small one ship corporations using older, less seaworthy vessels that are out to make maximum profits and will have no assets worth pursuing in the event of another major spill. Combined with this is the question of where will a company get the required certificates of financial responsibility, as the international insurance groups have stated that they do not intend to issue certificates for more than the amounts required under current international conventions and the Federal Pollution Control Act.\textsuperscript{62} Chevron, as noted earlier, has vowed to remain in the business and avoid catastrophe by doing a better job. How successful they will be at avoiding an oil spill and remaining profitable remains to be seen.

\textsuperscript{59} OPA 1004(a)
\textsuperscript{60} Wagner, pg 583.
\textsuperscript{61} OPA section 4202.
E. Will OPA '90 speed up the compensation process?

One goal of OPA '90 was to expedite the claims for compensation in the manner outlined under international legislation, so that a similar situation to the Amoco Cadiz case or the Exxon Valdez does not occur where many years pass before victims can be compensated. Initially OPA '90 does succeed by providing a procedure for claims to be filed against the responsible party and then against the compensation fund. At this point, however, the person filing the claim must then choose whether to pursue his claim additionally among the state, common law or maritime venues that are available. If the claimant does so, these claims have to be adjudicated to completion before he can receive any compensations from the fund. Without preemption of other laws the claims process is slowed by identical claims being adjudicated in multiple courts. A single forum should have jurisdiction to resolve all claims so as to reduce the time and costs of litigation and thereby provide compensation to victims in the shortest amount of time feasible, similar to the procedures used under the International Fund Protocols.

IV. Suggestions to allow the shipping industry to survive and still reduce the risk of oil spills

A. Compliance With OPA '90

Up to this point we have seen that OPA '90 may cause significant increases to the cost of operations of the oil and shipping industries, but the cost of cleaning up after any accidents is so high and the effects on the environment so pervasive (and still not totally known) the position of the U.S. government that
prevention of oil spills is cheaper in the long run than cleaning up after them (and living with the effects) would seem to be the best course to follow for society as a whole. While it is feasible to simply dictate to the oil industry to comply with all provisions of OPA '90, this may lead to a further reduction in the U.S. merchant marine industry as companies simply decide it is too expensive to continue in the shipping business. The following ideas may serve to achieve the desired reduction in risk of oil spills while still allowing shipping companies to remain competitive.

1. Special ports/handling procedures

Designate certain ports as "oil handling ports". Some major U.S. ports, such as Los Angeles/Long Beach, not only handle a large percentage of oil tanker traffic, but they are also suited to being utilized as an "oil handling port". This designation would be given to strategically located ports that already are or could be easily modified to handle large tankers and contain any spill that might result. Also, these ports would be located close to refineries to process the oil. Los Angeles/Long Beach is a perfect example of such a port. Refineries are already located there and the tanker traffic is already significant. The harbor can handle very large ships, is relatively easy to get in and out of, and there already is in place an inner and outer harbor breakwater. This last point is significant because it would allow tankers to wait at anchor safely inside the outer breakwater while waiting to offload, and if a spill were to occur it would be relatively easy to contain by closing off the entrances through the breakwaters with oil booms. Once designated as a oil handling port, emergency equipment could be
staged there so as to quickly respond to any spill. To encourage tankers to come to one of these ports the liability bond could be reduced, which would lower the insurance rates for that vessel; or high user fees would be charged for a tanker wanting to visit another port. The oil could be transported from the refineries via pipelines or rail, or via barge traffic that would be more closely regulated than is currently the practice. By concentrating tanker traffic to selected ports, oil spill response teams could concentrate their efforts on these ports, resulting in a higher recovery level. Since the ports would be built to handle oil spills, and could include collection sites for oily ballast of the type proposed by Shaw et al 6-3, environmental damage would be minimized and since the ports would be optimized for tanker traffic could actually speed up turnaround time for the offloading or onloading operation.

2. Crew restructuring

Since most oil spills occur near or in the entrance to harbors or traffic separation zones, a tanker could be encouraged to utilize a team of large tugs and a pilot or special master to bring the tanker in from the entrance to the pier. Rather than the current practice of having tugs follow a ship until it is close to the pier with a pilot providing guidance to the ships' master, the tugs would be made up to the tanker and would drive it to the pier under direction of the pilot or special master. The advantage of this arrangement is that the pilot, with the local knowledge of the harbor and well practiced at bringing such large ships in to the pier, would have effective control with the tugs of the ship at the most dangerous part of the
voyage and would be ready to respond to any emergency. Bringing a large ship into a harbor is no easy matter. After a long voyage with the minimum manned ships typical of today's merchant fleet, a ship's master can be fatigued and may be prone to mistakes. The pilot with his team of special tugs (and perhaps some assistants with the pilot to help with the navigation) would be able to safely bring the tanker into the harbor. This proposal could be combined with the preceding one, and similar inducements (reduction of liability premiums if the special team is used, or higher port fees if they are not) could be offered.

In addition to the above proposal, a close look at the training and certification of crews needs to be undertaken. As tanker companies move toward ever smaller crews, these crews need to be well trained so as to avoid another disaster like the Exxon Valdez. There is a move in this direction on the international front, and the U.S. needs to ensure that it follows suit. Standards such as are followed by the aviation industry should be implemented and followed, including such areas as crew rest so that another accident such as the World Prodigy spill, where the captain was found to be exhausted and distracted by cargo calculations, does not occur. Time and again, studies have found that prevention is cheaper than cleanup, and that the one area that is most often cited as the cause of an accident is human error, either due to inadequate training or some factor such as fatigue.

3. Offshore loading/unloading platforms

As an alternative to entering port, with the attendant risks to the vessel, it may be feasible to utilize offshore oil loading and unloading systems, such as are in use in the North Sea drilling areas and off of the Louisiana coast. The North Sea variants (such as the Single Anchor Leg Mooring (SALM) and the Articulated Loading Platform (ALP)) have been utilized in up to 530 feet of water\(^{65}\) and could be connected by pipelines to shore facilities. The advantage of these systems is that the loading and unloading operation could be conducted away from sensitive areas. Unfortunately, these facilities would also be located away from the shore and if a spill were to occur the response time would be increased and containment of the spill more difficult. The Louisiana Offshore Oil Platform (LOOP) is located 18 miles offshore and has been operating successfully since authorized in 1974, with a capacity of up to 1.4 million barrels/day, which is approximately 15 per cent of total imports for the U.S.\(^{66}\) The lower risks of an oil spill from the LOOP system were recognized in OPA '90 by the lower liability limits for LOOP and the potential for these limits to be lowered even further. This system will certainly be usable on off of certain types of coasts, but it should be pursued where feasible as a proven, practical alternative to bringing a tanker into port.

V. Conclusions


\(^{66}\) U.S. Congress, House, Merchant Marine and Fisheries Committee, Coast Guard and Navigation Sub-Committee, Investigation into Coastal Oil Spills, Hearing, June 21, 1990, pg 3.
There is little doubt that the passage of the Oil Pollution Act of 1990 was long overdue and vital to the continued fight against oil pollution. Certain of the provisions of OPA '90 need to be amended in order to provide a more viable program to control oil spills. These include: ratification of the 1984 Protocols, with the OPA 90 Compensation Fund to act as a backup to the International Fund in the event of a very large spill that will exceed the limits of the International Fund and the CLC; designation of a single venue for the adjudication of all claims, and preemption of the state laws with regard to liability limits; and to clearly designate a single agency to be responsible for the removal of an oil spill. Compliance with OPA '90 as it now stands by the oil industry is required at least for the short run, but with some imagination it may be feasible to achieve the necessary protection from oil spills while at the same time preventing the American merchant marine and related industries from facing economic disaster. As an added benefit, since the U.S. market is such a dominant force in the world, other nations' tanker fleets will want to comply with U.S. regulations in order to have continued access to the U.S. markets. This will result in more of the world's tanker shipping being built and operated in a safer manner and reduce the risk of oil spills worldwide, which is definitely to the benefit of the entire world.

In conjunction with these amendments, a concerted effort has to be made by the Administration and Congress to address the need to develop alternative energy sources to oil as well as encourage conservation of energy use, as there is no way to eliminate spills so long as we continue to import vast quantities of oil and since the
U.S. does not have the either potential or proven reserves to satisfy our ever growing energy requirements, we have to break the oil habit if we truly wish to prevent oil spills. As the Greenpeace advertisement in the wake of the Exxon Valdez spill pointed out with reference to Captain Hazelwood, "It wasn't his driving that caused the Alaskan oil Spill. It was yours."
Bibliography


"Clubs Re-Think Tanker P&I Cover", Lloyds' Shipping Manager, September 1990.


