

TURKEY'S OIL SPILL RESPONSE POLICY: INFLUENCES AND IMPLEMENTATION

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Abstract

Turkey has long benefited from the variety of uses that its adjacent seas provide. However, those uses also represent potential threats to the nation's coastal ecosystems and the lives and livelihoods linked to them. As part of an effort to balance expanding uses and potential problems, Turkey has recently enacted the "Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances" (OSRL). A number of national, extra-national and international incidents and agreements influenced the timing and content of OSRL, and a range of circumstances will likely influence the way the law is ultimately implemented. This research examines the historical, legal, and political factors that set the stage for the development of OSRL. It also assesses the European Union (EU) oil spill policy considering Turkey's actual EU pre-accession process and the manner in which similar law has been implemented in the United States (US) to gain insights into sound implementation.

Keywords: *Oil spill, Turkey oil spill policy, United States oil spill policy, EU oil spill policy, prevention, preparedness, response*

Acronyms

API	American Petroleum Institute
CC	Coordination Committee
CECIS	Common Emergency and Information System
CERCLA	Comprehensive Environmental Response, Compensation, Liability Act of 1980
CFCP	Coastal Facility Contingency Plan
CIS	Community Information System
CLC 92	International Convention on Civil Liability for Oil Pollution Damage 1992
COFR	Certificates of Financial Responsibility
CRS	Congressional Research Service
CWA	Clean Water Act
EIA	Energy Information Administration
EMSA	European Maritime Safety Agency
EPA	Environmental Protection Agency
EU	European Union
FUND 92	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution 1992
GAO	United States Government Accountability Office
GDPA	General Directorate of Petroleum Affairs
HELCOM	Helsinki Convention
IMO	International Maritime Organization
IOPCF	International Oil Pollution Compensation Fund
ITOPF	International Tanker Owners Pollution Federation Limited
MARPOL	International Convention for the Prevention of Pollution from Ships
MCMP	Management Committee for Marine Pollution

MIC	Monitoring and Information Center
MOEF	Ministry of Environment and Forestry
NCP	National Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Fund Center
OC	Operation Committee
OPA 90	Oil Pollution Act 1990
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation
OSC	On-scene Coordinator
OSLTF	Oil Spill Liability Trust Fund
OSRL	Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances
RCP	Regional Contingency Plan
REC	Regional Emergency Center
ROC	Regional Operation Committee
SDR	Special Drawing Rights
UMA	Undersecretary of Maritime Affairs
UNCLOS	United Nations Convention on the Law of the Sea
US	United States of America
USCG	United States Coast Guard
VCP	Vessel Contingency Plan
VTSTS	Vessel Traffic System for Turkish Straits

Dedication

To my wife, my mentor...

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Firstly, I have to mention that it has been a great opportunity for me to be awarded the United Nations – Nippon Foundation of Japan Fellowship. I am extremely grateful to the Division for Ocean Affairs and Law of the Sea (DOALOS), Office of Legal Affairs of the United Nations and The Nippon Foundation of Japan for this opportunity. I would like to express my profound gratitude to Dr. Francois Baillet (DOALOS) for his support throughout the period of this fellowship.

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1. INTRODUCTION

Oil is the world economy's most important source of energy. "The availability of liquid petroleum in the form of crude oil and its refined products is a key driver for all sorts of activities in modern society" (Burgherr, 2007). Petroleum products power virtually all motor vehicles, aircraft, marine vessels, and trains around the globe. Refined fuels provide more than 90% of the world's transportation energy (Smil, 2000). In total, products derived from oil, such as motor gasoline, jet fuel, diesel fuel, and heating oil, supply nearly 40% of the energy consumed by households, businesses, and manufacturers worldwide (Grant, K. Ownby, D. and Peterson, S. R. 2006).

Although oil is very crucial for the economic growth of countries, the oil reserves are not distributed uniformly around the world. According to a BP Statistical Review Report most of the World's proved oil reserves (61%) are located in the Middle East and Middle East Countries who are producing about 30% of the total amount of the world oil production. If it is taken into account the production rate of the US (8%), Canada (4.1%), Mexico (4.4%), Russia (12.6%) and China (4.8%) and added the amount of the Middle East Countries, this amount rises to 65%. Furthermore, combined the US (23.9%), the European Union (17.8%) and Japan (5.8%) consume about half of the global oil production. Furthermore, global oil consumption grew by 1.1% in 2007 and it is expected to increase in the following years (BP, 2008 and Energy Information Administration (EIA), 2008).

"The current separation between the location of oil reserves and the location of oil consumption necessitates that crude oil be transported great distances to refineries and consumer markets" (Connolly and O'Rourke, 2003). Because of this picture, almost 60% of the world's crude oil extraction is exported from about 45 producing countries and more than 130 countries import crude oil and refined oil products (Smil, 2000). Marine transportation is the primary means of oil transportation and oil makes up over 35% of the annual tonnage of all sea cargoes (Connolly and O'Rourke, 2003 and Devlet Planlama Teskilati (DPT), 2007a). Tankers transport almost 60% of the oil consumed in the world (Burgherr, 2007).

Increasing amounts of marine transportation and tanker traffic inevitably results in accidental oil spills. According to the International Tanker Owners Pollution Federation Limited (ITOPF) statistics¹, from 2000 to 2007 there were 149 spills over 7 tons spilling 192,000 tons of oil in to the marine environment. The vast majority of spills are small (i.e. less than 7 tones) and the number of these oil spills are much higher, however, they make a relatively small contribution to the total quantity of oil spilled into the marine environment. In fact, a few very large spills are responsible for a high percentage of oil spilled annually (Connolly and O'Rourke, 2003).

Most of the marine pollution comes from land-based human activities. Accidental oil pollution contributes a comparatively small percentage of the total amount of oil entering the sea, but the consequences of a major accident resulting in an oil spill can be disastrous (Sainlos, 2004). The main impact of oil spills obviously fall on marine habitats causing catastrophic effects on the marine ecosystem services by interrupting or damaging their provisions, seabirds and sea mammals. Spills result in not only pressure on marine habitats, but they also have economic consequences by damaging fisheries and mariculture, by causing chronic urban and industrial contamination, by interrupting recreational activities².

Until now, the world experienced several major oil spills that can be described as environmental disasters³. Nevertheless, the grounding and sinking of the *Torrey Canyon* in 1967 off the coast of England that ended up spilling 120,000 tons of oil into the sea caused the worst oil pollution ever at that time. This incident served as the catalyst for the elaboration of a framework for the protection of the marine environment through a series of international conventions to prevent oil spills (Akten, 2006). In March 1989, the tanker *Exxon Valdez* grounded in Alaska's Prince William Sound resulting in the largest oil spill to ever occur in US waters (National Oceanic and Atmospheric Administration (NOAA), 1992). In response to this incident, the US made significant changes in its national legislation dealing with oil spills and

¹ International Tanker Owners Pollution Federation Limited (ITOPF), Statistics, [<http://www.itopf.com/information%2Dservices/data%2Dand%2Dstatistics/statistics/>], 4 September 2008.

² *Ibid.*, Effects of Oil Spills, [<http://www.itopf.com/marine%2Dspills/effects/>], 4 September 2008.

³ *Ibid.*, Statistics, [<http://www.itopf.com/information%2Dservices/data%2Dand%2Dstatistics/statistics/>], 4 September 2008.

mandated new oil tankers have double hulls. This requirement subsequently caused modifications to international maritime regulations resulting in a far-reaching change in the design of tanker vessels (Mattson, 2006 and National Research Council 1998).

Shipping is perhaps the most international of the world's industries, serving more than 90 percent of global trade by carrying huge quantities of cargoes. Ships spend their economic life moving between different jurisdictions. If coastal States were authorized to establish standards, ships could be subject to many separate sets of standards and compliance with different standards would be difficult and costly. Therefore, the difficulty of vessels' compliance with several sets of different and inconsistent standards made clear the need for uniform international standards and rules regulating ships and observed by all States (Mansoor-Zia, 2005). This international character of the shipping industry lead the States to establish international rules and standards under the international conventions regulating the marine transportation in an effective, safe and environment friendly way.

In this context, the International Maritime Organization (IMO) was established as a global specialized agency of the United Nations in 1948. A United Nations Diplomatic Conference in Geneva adopted the Convention on the International Maritime Organization formally establishing IMO⁴ (IMO Convention). The convention came into force in 1958 and the new organization held its first assembly in 1959.

The aims of the IMO are summarized in Article 1(a) of the IMO convention as:

To provide machinery for co-operation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; and

To encourage the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships.

⁴ The original name was the Intergovernmental Maritime Consultative Organization (IMCO), but the name was changed in 1982 to IMO.

IMO has a membership of 168 States and 3 Associates Members⁵. Since its inception, IMO has adopted 45 treaties, of which 33 are today in force, in the field of safety of navigation, prevention of marine pollution and third party liability and compensation for maritime claims (Blanco-Bazan, 2004). “The most important ones have more than 120 States Parties representing 93% of the total tonnage of the world’s merchant fleet. In addition, more than 800 codes guidelines and recommendations have been produced through IMO” (Sainlos, 2004). The Organization’s standards now shape the marine industry of today by establishing an international maritime regime to which most of the world’s States are party to through their ratification of the conventions.

IMO introduced a series of measures to deal with accidental oil pollution through requirements designed to prevent tanker accidents and to minimize their consequences by adopting a series of marine environment protection conventions and regulations. However, it can be said that the growth in the amount of oil being transported by sea and especially the effect of the *Torrey Canyon* disaster gave impetus to the attempts to introduce effective measures concerning both accidental and operational oil pollution (Akten, 2006). The *Torrey Canyon* marine accident of 1967 being the cornerstone for the protection of marine environment (Akten, 2006) in which 120,000 tons of oil spilled demonstrated the scale of the accidental oil pollution. Before this incident, oil pollution resulting from routine tanker operations and from discharge of oily wastes from machinery spaces was recognized as a major problem and some measures dealing with these issues had been put in place⁶ (Mattson, 2006). However, increasing environmental concern with the effect of the *Torrey Canyon* prompted the introduction of measures directly related with accidental oil pollution.

The one of the most important of these measures is the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). With the effect of the *Torrey Canyon*

⁵ IMO official web site, Membership, [http://www.imo.org/About/mainframe.asp?topic_id=315], 10 September 2008.

⁶ International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL) adopted 1954 to address pollution resulting from routine tanker operations and from the discharge of oily wastes from machinery spaces. It established prohibited zones in which the discharge of oil or mixtures with some amount of oil was forbidden. Much of OILPOL and its amendments was incorporated by International Convention for the Prevention of Pollution from Ships (Marpol 73) Annex I covering oil. Available at [http://www.imo.org/Conventions/contents.asp?doc_id=678&topic_id=258], 1 December 2008.

disaster, the IMO Assembly decided to convene an international conference in 1973 to prepare a suitable international agreement to protect the marine environment. MARPOL 73 was negotiated during this conference. By 1978 the MARPOL 73 had not yet entered into force, and the 1978 MARPOL protocol was prepared in response to some additional recent tanker accidents. MARPOL 73/78 finally entered into force in 1983 as a combination of the two treaties adopted in 1973 and 1978 respectively and updated with amendments through the years. MARPOL 73/78 is the main international convention covering prevention of pollution of the marine environment by ships from operational and accidental causes. It covers not only pollution by oil but also pollution by chemicals, harmful substances in packaged form, sewage and garbage⁷.

MARPOL 73/78 includes provisions in its Annex I aimed at preventing and minimizing pollution by oil from ships. MARPOL 73/78 provisions dealing with accidental oil pollution stipulate⁸:

- Requirements to meet certain subdivision and stability which are designed to ensure that, in any loading conditions, the ship can survive after being involved in a collision or stranding⁹;
- Requirements of protective location of segregated ballast tanks. According to these requirements, ballast tanks shall be positioned where the impact of a collision or grounding is likely to be greatest. That will help protect the cargo tanks in the event of a collision or grounding¹⁰;
- Double hull requirements. In 1992 MARPOL was amended to make it mandatory for tankers of 5,000 dwt and more ordered after 6 July 1993 to be fitted with double hulls or an alternative design by IMO. It also brought in a phase-in schedule for existing tankers to be fitted with double hulls which was subsequently revised in 2001 and 2003 accelerating the phase out schedule for single hull tankers¹¹. IMO adopted revised phase-out schedules in 2001 and 2003 following the single-hulled tanker vessel *Erika* incident of 1999 and the *Prestige* incident of 2002 (Mattson, 2006); and
- Requirement of an oil pollution emergency plan for ships. The 1991 amendment added the new chapter IV to Annex I of MARPOL requiring all oceangoing oil

⁷ IMO official web site, MARPOL Convention, [http://www.imo.org/Conventions/contents.asp?doc_id=678&topic_id=258], 3 December 2008.

⁸ *Ibid.*, Tanker Safety, [http://www.imo.org/Safety/mainframe.asp?topic_id=155] and MARPOL Convention, available at [http://www.imo.org/Conventions/contents.asp?doc_id=678&topic_id=258], 1 December 2008.

⁹ MARPOL 73/78, Annex I: Regulations for the Prevention of Pollution by Oil, Section III, Regulation 25.

¹⁰ *Ibid.*, Section II, Regulation 13.

¹¹ *Ibid.*, Section II, Regulation 13F and 13G.

tankers of 150 gross tons and above and all other vessels of 400 gross tons and above to carry on board an approved “Shipboard Oil Pollution Emergency Plan¹²”.

Until 1969, there were no international conventions specifically addressing oil spill liability and compensation. Liability for oil pollution damage was limited to the vessel’s liability tonnage with amounts limited under the International Convention Relating to the Limitation of Liability of Owners of Sea Going Ships for the contracting countries and liability was limited to the total value of ship and cargo for other countries (Faure and Hui, 2003). The *Torrey Canyon* incident of 1967 clearly demonstrated the necessity for a regime to address the problems involved in oil spill liability and compensation (Kim, 2003).

Consequently, an international regime under the auspices of IMO has been established to compensate for pollution damage caused by spills from oil tankers. The framework for the regime was originally the 1969 International Convention on Civil Liability for Oil Pollution Damage (Civil Liability Convention 1969) and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund Convention 1971). This old regime was amended by two protocols in 1992. The amended Conventions are known as the Civil Liability Convention 1992 (CLC 92) and Fund Convention 1992 (FUND 92)¹³.

The 1992 CLC¹⁴:

- *Placed the liability for oil pollution damage on the owner of the ship¹⁵*;

Pollution damage includes loss or damage caused by contamination resulting from the escape or discharge of oil from ship and the costs of preventive measures and further loss or damage caused by preventive measures. In the case of environmental damage, other than loss of profit from impairment of the environment, compensation is limited to costs actually incurred or to be incurred for reasonable measures to reinstate the contaminated environment. Ship owners are held strictly liable whenever an oil spill occurs¹⁶.

¹² *Ibid.*, Section IV, Regulation 26.

¹³ International Oil Pollution Compensation Funds official web site, General Explanatory Note, [<http://www.iopcfund.org/npdf/genE.pdf>], 2 December 2008.

¹⁴ CLC 92, available at [<http://www.iopcfund.org/npdf/Conventions%20English.pdf>], 3 December 2008.

¹⁵ CLC 92, Article III (1).

¹⁶ *Ibid.*, Article I (6).

- *Adopted a limited liability;*

The limits will be applied to incidents:

- a) For a ship not exceeding 5,000 units of gross tonnage 4,510,000 Special Drawing Rights¹⁷ (SDR) million,
- b) For a ship with a tonnage between 5,000 and 140,000 units of tonnage 4,510,000 SDR plus 631 SDR for each additional unit of tonnage, and
- c) For a ship of 140,000 units of tonnage or over 89,770 000 SDR¹⁸.

However, if it is proved that the pollution damage resulted from ship-owners personnel act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result, the ship-owner is not entitled to limit his liability¹⁹.

- *Required maintaining insurance;*

Covering the liability of the owner of a tanker carrying more than 2,000 tones of persistent oil as cargo. Tankers must carry a certificate on board proving the insurance coverage²⁰.

The FUND 92²¹ was created to provide supplementary compensation for pollution damage to the extent that the protection afforded by the 1992 Liability Convention is inadequate²². For fulfilling this function, the International Oil Pollution Compensation Fund (IOPCF) pays compensation to those suffering pollution damage in a State Party who do not obtain full and adequate compensation under the terms of the 1992 Liability Convention because:

- (a) no liability for the damage arises under the 1992 Liability Convention;
- (b) the ship-owner is financially incapable of meeting his obligations under the 1992 Civil Liability Convention in full and any his financial security is insufficient to satisfy the claims for compensation for the damage; and

¹⁷ The unit of account in the CLC 92 and FUND 92 is the Special Drawing Rights (SDR) as defined by International Monetary Fund (IMF). The SDR is an international reserve asset created by the IMF in 1969 to supplement the existing official reserves of member countries. However, the SDR also serves as the unit of account of the IMF and some other international organizations. Its values is based on a basket of key international currencies.

¹⁸ CLC 92, Article V (I). (In October 2000, the Legal Committee of the IMO adopted a resolution increasing the limits prescribed by the 1992 Civil Liability Convention. These amendments entered into force on 1 November 2003. Available at [<http://www.iopcfund.org/npdf/Conventions%20English.pdf>], 3 December 2008).

¹⁹ CLC 92, Article V (II).

²⁰ CLC 92, Article VII (I).

²¹ International Oil Pollution Compensation Funds official web site, General Explanatory Note, available at [<http://www.iopcfund.org/npdf/genE.pdf>], 2 December 2008.

²² See Fund 1992, Article II (1).

(c) the damage exceeds the owner's liability under the 1992 Liability Convention²³.

The maximum amount of compensation payable by the FUND 92 for any one incident is 203,000,000 SDR, including the sum actually paid by the ship-owner or the insurer under the 1992 Civil Liability Convention. The FUND 92 is financed by contributions made by any person who has received in total quantities exceeding 150,000 tons of crude oil and heavy oil (contributing oil) in a State Party to the FUND 92 Convention in one calendar year²⁴. In 2005 a third tier of compensation was established by means of a Supplementary Fund with the adoption of a protocol in 2003. Besides, A Protocol to the FUND 92 (Supplementary Fund Protocol) was adopted in 2003 that provides a third tier of compensation by establishing an International Oil Pollution Compensation Supplementary Fund. This Supplementary Fund provides additional compensation to that available under the FUND 92 for pollution damage. The maximum amount payable for any one incident is 750,000,000 SDR including the amount payable under the 1992 Conventions²⁵.

The *Torrey Canyon* disaster also raised certain doubts regarding to the powers of States in respect of incidents on the high seas. In particular, the incident raised debate over to the extent of the actions allowable when a coastal State's waters and environment are threatened by a spill from another nation's vessel (Ramseur, 2007). The Intervention Convention²⁶ affirmed the right of a party to the convention to take such actions on the high seas as might be necessary to prevent, mitigate or eliminate danger to their coastline from pollution or threat of pollution by oil after a maritime casualty²⁷. However, a coastal State can only exercise the right to take actions after due consultations with appropriate interests such as the flag State of the ships, the owner of

²³ See Fund 1992, Article IV (1).

²⁴ Fund 92, Article IV (4). (In October 2000, the Legal Committee of the IMO adopted a resolution increasing the limits prescribed by the 1992 Fund Convention. These amendments entered into force on 1 November 2003. Available at, [<http://www.iopcfund.org/npdf/Conventions%20English.pdf>], 3 December 2008).

²⁵ International Oil Pollution Compensation Funds official web site, General Explanatory Note, available at [<http://www.iopcfund.org/npdf/genE.pdf>], 2 December 2008.

²⁶ International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, Adoption: 29 November 1969, Entry into force: 6 May 1975.

²⁷ The Intervention Convention, Article I (1).

the ships or cargoes and where circumstances permit, independent experts appointed for this purpose²⁸.

Following the grounding of the *Exxon Valdez* in 1989, the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) was adopted in 1990 and came into force in 1995²⁹. The primary purposes of the OPRC is to “facilitate international co-operation and mutual assistance in preparing for and responding to a major oil pollution incident and to encourage States to develop and maintain an adequate capacity to deal with an oil pollution emergency” (Sainlos, 2004). The OPRC established requirements in the following areas:

- International cooperation and mutual assistance³⁰;
- Pollution reporting³¹;
- Oil pollution emergency plans³²;
- National and regional preparedness and response capability³³;
- Technical cooperation and transfer of technology³⁴, and
- Research and development³⁵.

With the adoption of OPRC, oil pollution preparedness and response became a regular agenda item for IMO and in response it has developed guidelines, manuals, guidance documents³⁶ and model courses to help built national and regional preparedness and response systems and train personnel (Sainlos, 2004).

²⁸ *Ibid.*, Article III. (General information available at [http://www.imo.org/Conventions/contents.asp?topic_id=258&doc_id=680], 4 December 2008).

²⁹ Detailed information on OPRC, available at [http://www.imo.org/Conventions/contents.asp?topic_id=258&doc_id=682], 6 December 2008.

³⁰ International Convention on Oil Pollution Preparedness, Response and Co-operation 1990, Article 7, International co-operation in pollution response

³¹ *Ibid.*, Article 4, Oil Pollution Reporting Procedures.

³² *Ibid.*, Article 3, Oil Pollution Emergency Plans.

³³ *Ibid.*, Article 6, National and Regional Systems for Preparedness and Response.

³⁴ *Ibid.*, Article 9, Technical Co-operation.

³⁵ *Ibid.*, Article 8, Research and Development.

³⁶ IMO official web site, Responding to oil spill, available at [http://www.imo.org/Environment/mainframe.asp?topic_id=225], 10 December 2008.

Besides the above-mentioned measures adopted by IMO and implemented by most of the States as a part of the international maritime regime to prevent and respond to accidental oil spills, there are many other adopted measures indirectly related especially with the prevention of the oil spills. Taking into consideration that the main aim of IMO is to provide maritime safety, efficiency of navigation and prevention and control of marine pollution from ships, most of the produced conventions, protocols, guidelines and recommendations, including, *inter alia*, SOLAS³⁷, STCW³⁸, ISM³⁹ and COLREGs⁴⁰ Conventions, have a positive effect on the prevention of the accidental oil pollution in one manner or another.

Turkey is party to the international regime as it is a signatory to the IMO convention and most of the other conventions prepared by IMO to regulate the maritime safety and marine environmental protection⁴¹. The national regulatory framework dealing with the prevention, preparedness and response to the marine oil pollution is also shaped with the internalization of the international commitments by enactment of the domestic laws.

Turkey has long benefited from the variety of uses that its adjacent seas provide. However, those uses also represent potential threats to the nation's coastal ecosystems and the lives and livelihoods linked to them. As part of an effort to balance expanding uses and potential problems, Turkey has recently enacted the *Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances*⁴² (OSRL). This is the legal framework aiming to deal with the potential threat of accidental oil pollution that can be experienced along the coastal areas of the country.

³⁷ The International Convention for the Safety of Life at Sea, often referred to as SOLAS Convention, 1974, amended in 1978.

³⁸ The international Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, often referred to as STCW convention, the revised STCW Convention came into force in 1997.

³⁹ The International Safety Management Code, often referred to as ISM Code, ISM Code has been mandatory since 1998.

⁴⁰ Convention on the International Regulations for Preventing Collisions at Sea, often referred to as COLREGs Convention, 1972.

⁴¹ The International Conventions that Turkey has signed are available at: [http://www.imo.org/Conventions/mainframe.asp?topic_id=247], 1 March 2009.

⁴² Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances (OSRL), Law No:5312, Official Gazette No: 25752 of 11 March 2005.

A number of national, extra-national and international incidents and agreements influenced the timing and content of OSRL, and a range of circumstances will likely influence the way the law is ultimately implemented. This research examines the historical, legal and political factors that set the stage for the development of OSRL. It also assesses the European Union (EU) oil spill policy considering Turkey's current EU pre-accession process and the manner in which similar law has been implemented in United States (US) to gain insights into sound implementation.

In this context, this first part of this paper provides an analysis of the national response to oil spill threat including the clarification and identification of oil and oil spills in Turkey and the influences of the enactment of the OSRL. After describing the OSRL, its requirements and actual implementation situation, the paper analyzes the actual implementation situation taking into account the challenges faced and proposes measures for the development of a sound implementation strategy. A review of the EU oil spill policy to facilitate Turkey's accession process by providing policy measures to benefit from and follows so as prepared for the process.

The second part of the paper addresses the manner in which the US has implemented a similar law so as to gain insights into the sound implementation of the Turkish OSRL. It reviews US oil spill response policy and its development, taking into account the historical background, causes and circumstances as well as analyzes the effectiveness of its implementation.

As a result, the paper provides remarks on the implications for a sound implementation of the OSRL by also taking inputs and lessons learned from the analysis of the EU and US oil spill response policy.

2. FACTORS INFLUENCING TURKEY'S OIL SPILL RESPONSE LAW

Analyzing and determining the factors influencing Turkey's OSRL are very important, these influences are the causes that gave rise to the OSRL. Only if we set out these factors, can we look for the effects of these factors in the OSRL and we can understand the efficiency and deficiency of this legal instrument by checking if it is responding enough to these influences. This section will identify the influences of national and international factors effecting the enactment of the OSRL and analyze the OSRL with the aim of assessing its ability to reply to these influences and make recommendation for the development of a sound implementation strategy. Furthermore, it will review the EU oil spill policy as a potential influencing factor to facilitate the accession process of Turkey.

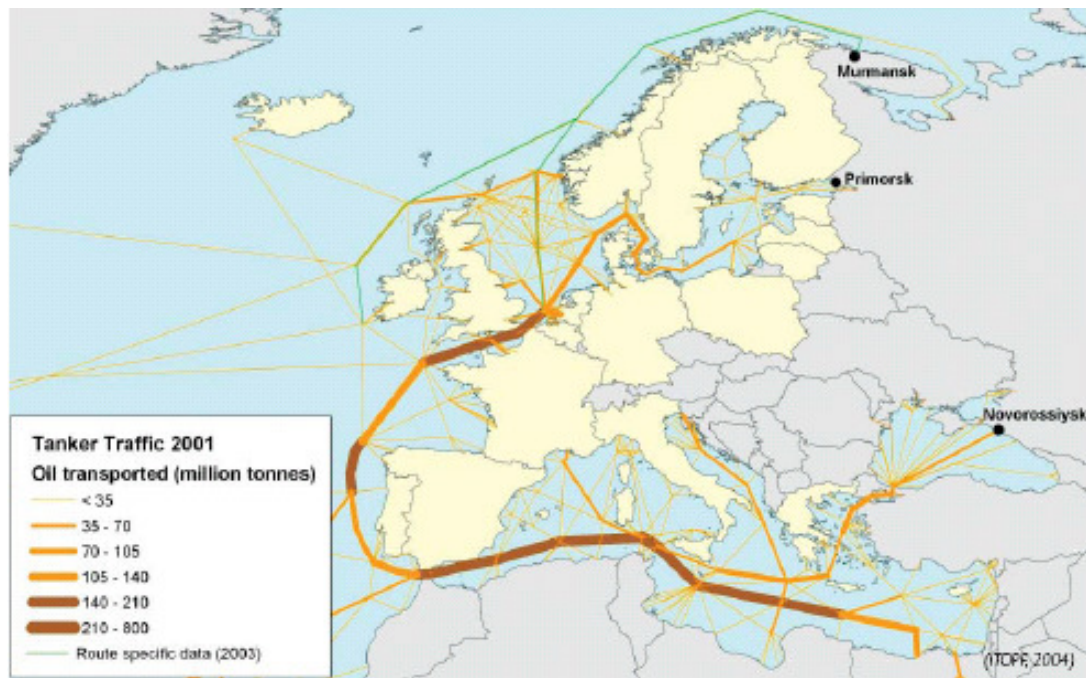
2.1. National Response to Oil Spill Threats

2.1.1. Oil and Oil Spills in Turkey

Although Turkey is situated in the vicinity of the most important oil production sites such as the oil reserves of the Middle East and the Caspian Sea, it is a very poor country with respect to oil reserves. According to the General Directorate of Petroleum Affairs (GDPA) statistics, the oil production rate of Turkey is in a declining trend with 4,451,702 tons/year to 2,175,668 tons/year from 1991 to 2006. The remaining amount of oil reserves that can be produced is presumed to be 40,9 million tons according to the 2004 data. Considering the oil consumption rates of the country, if it does not explore new oil reserves in the scope of the recent exploration activities in some regions of the country and especially Black Sea, it is expected that the remaining oil reserves are going to terminate in 17 years (DPT, 2007b). According to the GDPA statistics, the country's oil consumption figure in 2005 was 25.7 million tons and only 2.3 million tons of this amount was produced domestically. It is expected that the consumption figure will rise to 26.6 million tons by 2013. The ratio of domestically produced oil to the oil consumption of the country is only about 8-9%, thus most of the oil and its products are imported.

Turkey, having a coastline of approximately 8,000 km, is situated to the southeast of Europe, south of the former Soviet Union and Black Sea, northwest of the Middle East and northeast of the Mediterranean Sea where the European and Asian continents meet across the Turkish Straits. As a result of this geographical situation, Turkey is in the middle of the Middle East, North Africa and Caspian Region oil reserves which account for two thirds of the global oil reserves. It is also a transit country between oil producing and oil consuming countries (DPT, 2007b), particularly for the Russian and Caspian Regions' oil which is transported to the Black Sea via pipelines and carried to the world markets by tanker through the Turkish Straits. Oil produced in North Africa and Middle East is transported out of Egypt to the Mediterranean Sea and distributed to the world through the Mediterranean shipping routes (Figure 1). Furthermore, important amounts of Iraqi and Caspian Azerbaijani oil are carried via pipelines to the Ceyhan oil terminal on the Turkish Mediterranean coast and dispatched from there to the consumers world-wide (Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC), 2008).

Figure 1. Tanker Traffic and Volume of Oil Transported



Source: European Maritime Safety Agency (EMSA) (2004)

The Turkish Straits forms the boundary between the Black Sea and the Mediterranean Sea, and is the only maritime access route between the two. Consequently, all crude oil shipped by sea out of the Black Sea has to pass through the Turkish Straits to reach the world markets. According to the Undersecretariat of Maritime Affairs of Turkey, more than 50,000 ships including more than 10,000 tanker vessels went through the straits in 2007. The daily oil tanker transportation is as high as 3 million bpd (roughly 150 million tons) a year (Pamir, 2007). Furthermore, exports of oil from the Black Sea will increase pressure on existing shipping routes and Turkish Straits are expected to experience an increase in traffic over the coming years with the effect of increasing oil production rates in Russia and the Caspian region (REMPEC, 2008).

Because of Turkey's position as a transit country between the oil exporting and importing countries, there is a very high vessel traffic in the Turkish Straits and due to large oil imports to meet the oil consumption of the country, Turkey has experienced many marine accidents resulting in oil spills and there is always potential to experience a major oil spill.

The Undersecretariat of Maritime Affairs reports that 117 marine accidents happened on Turkish Coastlines in 2007. Among these, 80 marine accidents (68%) happened in the Turkish Straits, thus demonstrating the big potential for the Turkish Straits to be subject to oil spills. Besides, important marine accidents resulting in oil spills occur mostly in the Turkish Straits Region (Table 1).

Table 1. Important Oil Spills in Turkish Straits

Date	Vessel Name and Flag	Accident Area	Accident Type and Oil Spilt
14.12.1960	World Harmony (Greek) v. Peter Zoranic (Yugoslavia)	Kanlica	Collison and fire: 18.000 tons oil spilled
15.09.1964	Norborn (Norwegian) v. wreck of Peter Zoranic	Kanlica	Contact: fire and oil spilled
01.03.1966	Lutsk (Russia) v. Kransky Oktiabr (Russia)	Kizkulesi	Collison and fire: 1.850 tons oil spilled
15.11.1979	Independientia (Romania) v. Evriali (Greek)	-	Collison and fire: 20.000 tons of oil spilled and 50.000 tons of oil burned
09.11.1980	Nordic Faith (British) v. Stavanda (Greek)	-	Collison and fire
29.10.1988	Bluestar (Malta) v. Gaziantep (Turkish)	Ahirkapi	Contact: 1.000 tons ammonia spill
25.03.1990	Jambur (Iraqi) v. Da Tung Shan (Chinese)	Sariyer	Collision: 2.600 tons oil spilled
13.03.1994	Nassia (Philippines) v. Shipbroker	Bebek	Collison and stranding: 22 tons oil spilled
1982	Unirea		66.400 tons oil spilled
07.12.1999	Semele v. Sipka	Yenikapi	Collision: 10 tons oil spilled
29.12.1999	Volganef 248	Florya	1.500 tons oil spilled
06.10.2002	M.V. Gotia	Emirgan Dock	Stranding: 20 tons oil spilled
10.12.2003	Svyatoy Panteleymon (Georgia)	Anadolu Feneri	Grounding: 230 tons oil spilled

Source: Prepared by the author by using: (Akten, 2006) and the official web site of Istanbul Directorship of the Ministry of Environment and Forestry [http://www.istanbulcevor.gov.tr/sube_detay.asp?id=67&sube=16]

2.1.2. Factors Influencing Turkey Oil Spill Policy

Turkey's most important step regarding the preparedness and response to oil pollution of the marine environment from ships and coastal facilities in case of an emergency is the enactment of the OSRL in 2005. In this section, the main factors influencing the development of Turkey's oil spill policy will be explained in the context of the preparation and enactment of OSRL.

1- International Convention on Oil Pollution Preparedness, Response and Co-operation - 1990 (OPRC)

The OPRC was open for signature at the IMO in 30 November 1990 and came into effect on 13 May 1995. The Convention stipulates that States Party must take necessary measures at the national level and establish a co-operation mechanism among the parties in order to be prepared for and respond to effectively oil pollution of the marine environment. It further contains provisions with respect to:

- Exchange of information on the adequacy of the States for responding to the oil pollution in case of an emergency situation;
- Preparation of the oil pollution emergency response plans;
- Reciprocal exchange of information on the incidents which can affect the marine and coastal environment and the interest of the States; and
- Research and development of the tools to respond of the oil spill and mutual and international cooperation on this aspect.

Turkey became party to OPRC in 2003 through the promulgation of Law No. 4882⁴³, thereby undertaking to act appropriately and to be prepared for and respond to an oil pollution incident in accordance with the provisions of the Convention⁴⁴.

OPRL was enacted in 2005 to fulfill the commitments related with the OPRC. In the introduction to the OPRL drafted bill in 2004, it is expressed clearly that the aim of OPRL was to fulfill the commitments undertaken as a party to the international conventions by internalizing the instruments into the domestic law (Türkiye Büyük Millet Meclisi (TBMM), 2004).

2- Insufficient Regulatory Framework

Before the enactment of OPRL, it can be said that there were no legal frameworks in place to directly address oil spills and which defined clearly the oil spill preparedness and response principles. The general provisions for the protection of the environment contained in

⁴³ Law Approving the Turkey Participation of the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 and Its Annexes, Law No: 4882, Official Gazette No: 25141 of 17 July 2003.

⁴⁴ OPRC, Clause 1, General Provisions, Article 1.

the Environmental Law 2872⁴⁵ formed the main legal basis of the pre-OPRL Turkish oil spill policy. The Ministry of Environment was implementing the Environmental Law 2872 and was charged with taking any necessary measures to prevent the environmental pollution and making emergency response plans and provide necessary coordination among the related institutions and organizations for a prompt response to prevent the pollution of the environment⁴⁶. In this respect, the activities realized in the scope of this mission also included the preparedness and response to oil spills.

Therefore, only 14 of the 21 coastal cities of the Turkey had Emergency Response Plans (Bebek). Although the plans included oil pollution preparedness and response, they were not prepared directly and specifically to deal with the oil spills. In general, they were prepared to coordinate the present abilities to respond to the possible marine pollutions that can be confronted in the case of emergency including, inter alia vessel and marine fires, radioactive and nuclear pollution. The plans were not prepared with a planning understanding taking into account the size and type of the pollution. There were not any coordination and consistency among the plans and they did not include any risk assessment. They just included the abilities of the coastal city to respond to the marine pollution that could be experienced only by that city and described the authorization and coordination among the public institutions at the district level.

Furthermore, according to the Water Pollution Control Regulation, facilities processing, storing and transferring oil and oil products have to be prepared to the any kind of oil discharge in case of an emergency by establishing and maintaining a response organization and necessary equipment⁴⁷. However, there was no standardization of response equipment or organizations and the actual response equipment situated around the country was very limited. There was some Government-owned equipment in the country, and this was mainly operated by the Directorate

⁴⁵ Environmental Law, Law No: 2872, Official Gazette No: 18132 of 11 August 1983.

⁴⁶ Executive Order on the Foundation and Administrative Function of the Ministry of Environment, Executive Order No: 443, Official Gazette No: 20967 of August 21, 1991. [This Executive Order Abolished by “The Law Organization and Administrative Function of the Ministry of Environment and Forestry” (Law No: 4856, Official Gazette No: 25102 of 8 May 2003) and Ministry of Environment became Ministry of Environment and Forestry].

⁴⁷ Water Pollution Control Regulation, Official Gazette No: 19919 of 4 September 1988. (This Regulation abolished by the article 56 of the new “Water Pollution Control Regulation” Law No: 2872, Official Gazette No: 25687 of 13 December 2004).

General of Coastal Safety, a government-run salvage company located in Istanbul. A limited amount of oil spill clean-up equipment was also owned by the oil companies operating in the country (International Tanker Owners Pollution Federation Limited, 2001).

These lacunas clearly needed to be filled through a detailed legal framework so that the State could respond to an oil spill in case of an emergency.

3- Oil Spill Experiences and Potential Oil Spills

Turkey has experienced many oil spills on its coasts and has the potential to experience some other major oil spills because of its geographical situation as a transit country between the oil exporting and importing countries, the heavy tanker traffic in the Turkish Straits and the important amount of oil imported to supply the country's oil consumption. This situation makes it necessary to develop preparedness and response mechanisms for oil spills.

2.1.3. OSRL of Turkey

OSRL is prepared exclusively to deal with accidental oil spills in marine environment. This law has closed the previous legal lacunas and determined:

- The principles concerning response and preparedness for eliminating the risk of pollution, or for reducing, containing, or eliminating pollution in emergency incidences stemming from ships or operations of coastal facilities;
- The principles for determining and compensating for damages resulting from an incident; and
- Powers, duties, and responsibilities of the officials of institutions, organizations, ships, and facilities⁴⁸.

According to OSRL:

- *The Ministry of Environment and Forestry (MOEF)* is responsible for preparing emergency response plans, implementing emergency response plans in coastal areas,

⁴⁸ OSRL, Clause 1, General Provisions, Article 1.

- determining kind and impact of pollution, assessment of damage to environment and rehabilitation of the areas affected by post-incident pollution; and
- *The Undersecretary of Maritime Affairs (UMA)* is responsible for implementing emergency response plans to prevent pollution of the sea as caused by marine vehicles, matters of preparedness and intervention in case of pollution, and matters of compensation for damage and notification of guarantees of financial⁴⁹.

In the wake of the enactment of the OSRL, a series of regulations, declarations and circular orders have been prepared for implementation and clarification of the law:

OSRL Implementation Regulation: defines measures, methodologies and basis relating to the implementation of the OSRL to provide an efficient application of the principles and requirements of the law⁵⁰.

Regulation for Good and Service Procurement in the Scope of OSRL: the purpose of this regulation is to identify the principles and procedures which will be applied during the procurement of the goods and services to prepare the contingency response plans and to provide necessary goods and services to promptly implement the emergency response plans in the case of an emergency situation⁵¹.

Government Notification on the Minimum Capabilities of the Institutes which will Prepare Risk Assessments and Contingency Plans: this notification provides necessary eligibility criteria for the institutions and organizations which can prepare the risk assessments and contingency plans⁵².

Circular Order on Coastal Facilities Contingency Plans: This circular order identifies the methodologies which will be used during the process of the preparation of the coastal facilities

⁴⁹ OSRL, Clause 2, Authorities and Responsibilities, Article 4.

⁵⁰ OSRL Implementation Regulation, Official Gazette No: 26326 of 21 October 2006.

⁵¹ Regulation for Good and Service Procurement in the Scope of OSRL, Official Gazette No:26150 of 26 April 2006.

⁵² Government Notification No: 2007/3, Official Gazette No: 26430 of 10 February 2007.

contingency plans and risk assessments related with these plans. It sets standards on the materials and equipments which will be used to respond the oil spills⁵³.

Circular Order on Training and Drills: determines the content, methodology and period of the training programs necessary for the staffs which will be dealing with the oil spills and schedules and periods of the drills⁵⁴.

Government Notification on General Rules for Obligatory Financial Insurance for Coastal Facilities: It has been prepared by the Turkish Treasury and declared in 01 July 2007.

MOEF has contracted the Scientific and Technologic Research Council of Turkey (TUBITAK) to prepare the national and regional emergency response plans in 2008 and it is expected that the plans will be terminated at the end of the 2009. Furthermore, the coastal facilities obliged to prepare the coastal facilities contingency plans has been determined⁵⁵. 13 intuitions has been empowered to prepare these plans⁵⁶ and, preparation and approval of the coastal facilities contingency plans process is going ahead.

2.1.3.1. National Preparedness and Response System

The main objective of the OSRL as it can be also understood from its name is the identification and the regulation of matters related with preparedness and response to accidental oil spills. Because of this reason, the OSRL and its implementation regulations takes on these issues as a primary concern. More specifically, the implementation regulation includes detailed information on the duties and responsibilities of the institutions and organizations and their authorized personnel, which will have active roles before and during an oil spill. The organizational concept and coordination among the response units of the emergency response

⁵³ Circular Order No: 2007/8, Undersecretary of Maritime Affairs, 26 October 2007.

⁵⁴ Circular Order No: 200/2, Undersecretary of Maritime Affairs, 14 February 2008.

⁵⁵ Coastal facilities which are executing activities leading pollution of seas with substances referred in III and II affixes of II annex of International Contracts Related to Prevention of Seas by Vessels (MARPOL 73/78) approved by 5 March 1990 dated and 90/442 numbered decision Board of Ministers and petroleum at coast, regions closed to coast including open sea facilities and pipe lines have to have a contingency plan. (OSRL Implementation Regulation, Clause 5, Planning of Response, Article 23).

⁵⁶ The list of institutions empowered to prepare these contingency plans can be find on Official Web Site of the Ministry of Environment and Forestry, [<http://www.deniz.cevreorman.gov.tr/kurum.htm>], 14 November 2008.

plans have been described in detail, and the content and the structural format of the national and regional contingency plans have been outlined.

In the OSRL Implementation Regulation, contingency planning is based on the gradual intervention approach according to the size of the pollution. In this scope, the following intervention levels are applied:

- *Level 1:* covers incidents at a coastal facility or ship that might occur because of operational activities and that might cause small-scale pollution. They are incidents that a coastal facility or a ship could take under control with its own equipment and capabilities;
- *Level 2:* are medium-scale incidents that can be intervened and controlled with regional equipment and capabilities in situations where those of a coastal facility or ship are limited; and
- *Level 3:* covers large-scale incidents that arise from serious accidents that occur at sea and/or at a coastal facility⁵⁷.

The Regulation requires preparation of the following contingency plans to make an efficient response to the oil spills:

National Contingency Plan (NCP): is prepared to respond a third level incident. It describes how to use national capabilities effectively in the case of major oil pollution and provide national and if necessary international cooperation and coordination mechanisms⁵⁸.

Regional Contingency Plans (RCP): plans for response to a second level incident and are implemented by the responsible governor. They include detailed information on the duties and responsibilities of the personnel who will respond to the incident, details of preparedness and response activities, information procedures and communication methods. They are prepared for the area of responsibility of each Regional Directorate tied to the UMA⁵⁹.

⁵⁷ OSRL Implementation Regulation, Clause 3, National Preparedness and Response System, Article 7.

⁵⁸ *Ibid.*, Clause 5, Planning of the Response, Article 25.

⁵⁹ *Ibid.*, Article 24.

Coastal Facilities Contingency Plans (CFCP): describes necessary preparedness and response activities for all levels of incidents that can be caused by the coastal facility. It establishes coordination between the CFCP and the NCP and RCPs. It identifies procedures and actions which will be applied in case of an emergency according to the intervention levels and includes lists of necessary personnel, material and equipment for response to an incident⁶⁰.

Vessel Contingency Plans (VCP): All vessels, in the context of rule 16, Annex II, and rule 26, Annex I, of MARPOL 73/78, prepare their VCPs according to the IMO rule and advice⁶¹.

Response actions to an oil spill are implemented with the activation of the suitable contingency plan taking into account the level of the incident. Intervention to a 2nd and 3rd level of incident are fulfilled by RCP and NCP respectively (Figure 2). The main components of the national response system include the Coordination Committee (CC), Operation Committee (OC), On-scene Coordinator (OSC), support groups and operational groups.

CC is responsible for the general coordination of the response activities. OC provides necessary technical and organizational support such as response techniques, provision of personnel, material and equipment during the response activities. OC consists of the operation coordinator, OSC and group chief of the operation and support groups. The response activities are fulfilled by the OSC, which is in OC's command in the scope of the suitable contingency plan. Operation groups that are working under the OSC are responsible for the direct response activities to the pollution incident. Support groups provide technical support on the environmental protection, response techniques to the pollution and financial matters to the OC.

In this context, during a second level incident, Regional Coordination Committee formed by regional employees of the institutions and organizations that are responsible for the implementation of the RCP provide regional support and coordination to fulfill the demands of the Regional Operation Committee (ROC) to respond the incident. ROC and Regional On-scene Coordinator respond to the incident in the scope of the regional abilities with the support of the

⁶⁰ OSRL Implementation Regulation, Clause 3, National Preparedness and Response System, Article 23.

⁶¹ *Ibid.*, Article 21.

operation and support groups within the framework of the RCP. In case of a third level incident, response activities are implemented by the National Operation Committee and National On-scene Coordinator with national abilities under the general coordination of the National Coordination Committee and these committees are formed by national employees of the institutions and organizations that are responsible for the implementation of the NCP⁶².

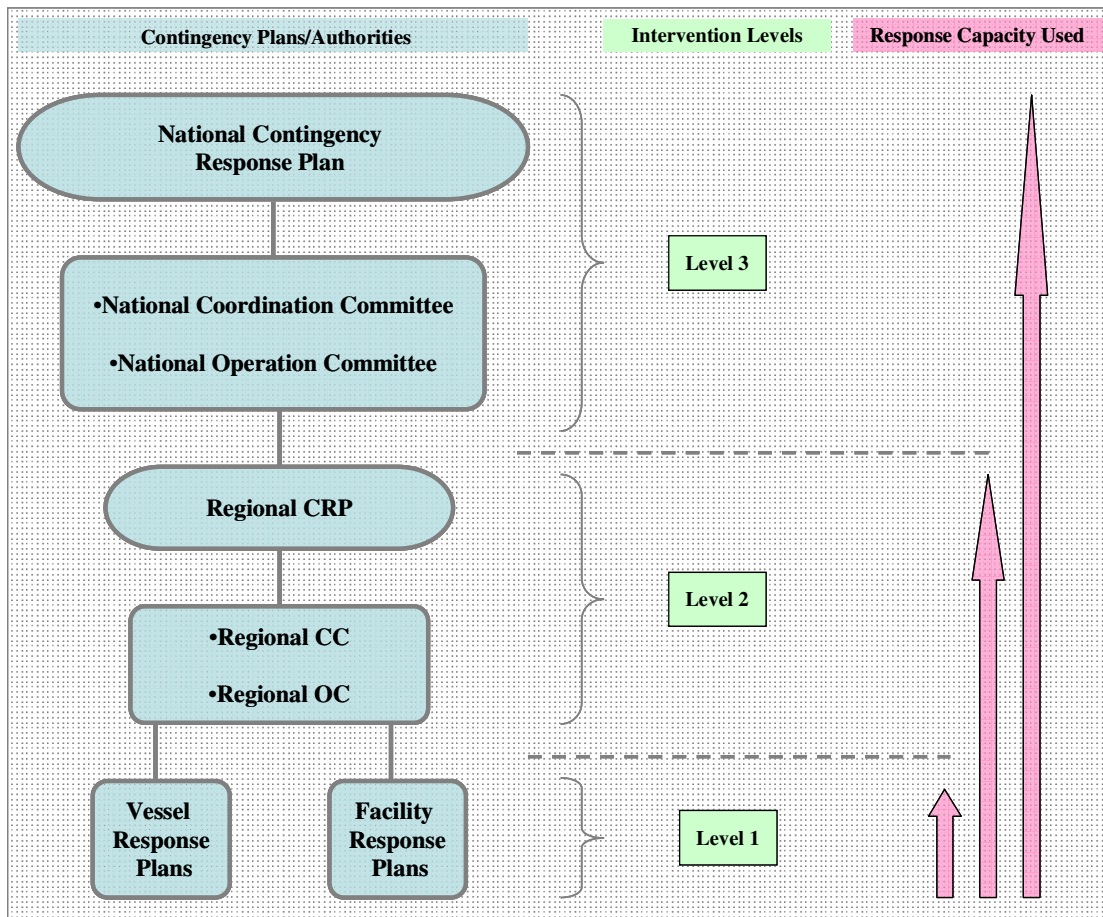
Furthermore, OSRL Implementation Regulation requires the establishment of the Regional Emergency Centers (RECs) that will serve as an intervention, operation and coordination center for the effective application of the RCPs. The location of the RECs, their abilities and capabilities, personnel, material and equipment will be determined as a result of the risk analysis to make a better response in case of an emergency⁶³. The CFCPs are also prepared based on the risk assessments and personnel, material and equipment for response activities will be determined after these assessments.

If the preparedness and response understanding defined in the OSRL are generally evaluated, it can be concluded that it provides a well defined and sufficient preparedness and response framework with interrelated, risk-assessment based and adaptable to the size and level of the oil spill contingency planning.

⁶² OSRL Implementation Regulation, Clause 4, Response Authorities, Article 10-20.

⁶³ *Ibid.*, Clause 3, National Preparedness and Response System, Article 9.

Figure 2. Turkish Oil Spill Response System



Source: Adapted from OSRL Implementation Regulation

2.1.3.2. Compensation and Liability

Liability of the responsible parties and the compensation principals and procedures related with the damages for the ships and coastal facilities under this law have been determined with the OSRL and its implementation regulation.

Liabe parties of ships and coastal facilities under the OSRL are liabe jointly and separately for:

- Compensation of expenditures for cleaning;
- Expenditures for preventive measures;

- Any damage to living resources and marine life;
- Reinstatement of degenerated environment;
- Expenditures for transport and disposal of any waste collected;
- Damages to natural or living resources that are exploited for subsistence purposes;
- Damage to private property;
- Losses stemming from personal injury or death;
- Loss of income, damage to capacity to earn income or revenues; and
- Other public losses

caused by pollution or risk of pollution stemming from any incident involving vessels or coastal facilities in any area of enforcement⁶⁴.

Procedures for compensation of damages and notification of the guarantees of financial liabilities will be implemented by the UMA⁶⁵. Establishment and working procedures of the damage identification commission are prescribed by in the OSRL Implementation Regulation⁶⁶.

Ships carrying oil and oil products requesting entry to areas of enforcement are obliged to possess documents of financial liability pursuant to international conventions signed by Turkey and coastal facilities are obliged to have financial insurance against the damages under the law⁶⁷.

Compensation for pollution damage caused by spills from oil tankers is governed by an international regime elaborated under the auspices of the IMO. In the scope of this regime, the CLC 1992 governs the liability of ship-owners for oil pollution damage. The convention lays down the principle of strict liability for ship-owners and creates a system of compulsory liability insurance. Furthermore, the FUND 92 Convention is supplementary to the CLC 1992. It

⁶⁴ OSRL Implementation Regulation, Clause 3, Compensation of the Damages, Article 6

⁶⁵ *Ibid.*, Clause 2, Authorities and Responsibilities, Article 4

⁶⁶ *Ibid.*, Clause 8, Damage Identification Commission, Identification of the Damages and Compensation, Article 38-39

⁶⁷ OSRL, Section 3, Compensation for Damages, Article 8.

establishes a regime for compensating victims when the compensation under the applicable CLC is inadequate⁶⁸.

Turkey is a signatory of these conventions and thus is a party to this international regime. Accordingly, as stipulated by the OSRL, vessels carrying oil have to possess the financial documents required by these international conventions⁶⁹. Furthermore, for the maximum amount of liability attributable to any liable party and the total sum of liability of the liable parties for each ship will be abide by the provisions of these conventions⁷⁰.

Although OSRL allows the vessels to be abide by the international conventions in respect of the liability requirements, there is an incompatibility between the scope of liability for damages described in the OSRL and descriptions for the recoverable damages made by the international conventions. OSRL requires that responsible parties are liable for the damages to living resources and marine life and reinstatement of the degenerated environment. Damages to living resources and marine life are not included in the description of the recoverable damages of the international regime of liability and reinstatement of the degenerated environment is very limited⁷¹. According to the international system, in the case of environmental damage, compensation is restricted to costs actually incurred or to be incurred for reasonable measures to reinstate the contaminated environment. Therefore, the recoverable damages definition provided by OSRL will not be applied to the vessels and will only be applied to the coastal facilities. However, this situation can cause some problems during the implementation especially for the incidents involved by both the vessels and coastal facilities. The scope of the recoverable damages required by the OSRL is more useful to protect the environment by maximizing the amount that can be compensated comparing to the international system. However, without applying the scope of the damages on the vessels the protection of the environment will not be satisfied completely.

⁶⁸ International Oil Pollution Compensation Funds (IOPC Funds) official web site, [<http://www.iopcfund.org/>], 17 November 2008.

⁶⁹ OSRL, Clause 3, Compensation of Damages, Article 8.

⁷⁰ *Ibid.*, Article 7.

⁷¹ International Oil Pollution Compensation Funds (IOPC Funds) official web site web site, [<http://www.iopcfund.org/>], 17 November 2008.

OSRL requires that the Undersecretary of Treasury establish the general conditions and tariffs of financial liability insurance to be taken by coastal facilities⁷². The Undersecretary of Treasury released the “General Conditions of the Marine Pollution Financial Liability Insurance of the Coastal Facilities” and these conditions came into effect in 1 July 2007. However, the tariffs of the coastal facilities liability insurance has not yet been declared and thus its implementation is not possible before the identification of the tariffs. In addition, the released general conditions include only the expenditures for cleaning of spilled oil, transportation and disposal of wastes collected, losses stemming from personal injury or death and damage to private property without containing all of the recoverable damages required by the OSRL. Because this means the insurance company will just insure the possible damages included in the general conditions, there is a question mark on how the other damages will be compensated.

2.1.3.3. Prevention

OSRL includes requirements on the preparedness and response to the oil spills and determines the principles of the liability and compensation of the damages caused by oil spills. There are no requirements directly related to the prevention of oil spills in the law. This situation was criticized in the OSRL Draft Statute Report of Environmental Commission of the Grand National Assembly of Turkey by emphasizing the need of inclusion of some measures to prevent the occurrence of the incident that can cause an oil spill (TBMM, 2004). However, it is clear that identification of the liability and compensation requirements and implementation of these will be a deterrent effect on the oil industry by imposing monetary responsibilities to prevent the oil spills. Coastal facilities failing to comply with the requirement to take compulsory financial liability insurance will not be allowed to operate⁷³. Furthermore, ships with foreign flags subject to this law and lacking the guarantees of financial liability as stipulated by international conventions signed by Turkey shall not be allowed to enter Turkish inland waters or territorial waters⁷⁴. It can be most probably expected that the ships and coastal facilities having the financial liability insurance will be in the tendency of complying to the rules and procedures to

⁷² OSRL, Clause 3, Compensation of Damages, Article 8.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

prevent the oil spills. In this respect, the OSRL has made a very important contribution to prevent oil spills.

The administrative function to take the necessary direct and indirect measures to prevent marine pollution is implemented by the Undersecretariat for Maritime Affairs (UMA). UMA is responsible for taking the necessary measures to prevent the deterioration and pollution of the marine environment, providing for navigational safety at sea, determining the standards and principles of the construction and manning of vessels and undertaking port State control and flag State control.

The Turkish coasts and ports are subject to international tanker traffic due to the Turkey's geographic position as a transit country and its own oil import. In this respect, the port State control and flag State control are very important to provide the navigational safety and prevention of an accident that may cause oil pollution. Furthermore, OSRL implementation regulation requires that the inspection of the vessels compliance to the OSRL will be inspected by port State control and flag State control mechanisms⁷⁵.

Turkish flagged vessels are among the vessels receiving priority consideration during the port State controls and have high retention rates (Yavuz, 2003). This situation indicates the insufficient enforcement of the flag State controls and high-risk rating of the Turkish flagged vessels that are not providing enough navigational safety. Meanwhile, in recent years the retention rates of the Turkish flagged vessels have significantly declined. The number of Turkish flagged vessels held by foreign ports was 211 in 2001 and decreased to 42 in 2007 (UMA, 2007). Furthermore, Turkish flagged vessels, which had been for a long time very high risky vessels on the black list of the Paris Port State Control, passed to the grey list in 2004 (Paris MOU, 2006).

A sound implementation of the port State control inspections is very important to prevent the countries' ports from becoming a preferable place for the operation of low standard foreign-flagged vessels. Turkey is a signatory of the Mediterranean Port State Memorandum since 1997

⁷⁵ OSRL Implementation Regulation, Clause 11, Miscellaneous and Final Rules, Article 54.

and the Black Sea Port State Memorandum since 2000 and port State controls have been implemented according to the requirements of these MOUs. The port State control inspection rates of the Turkish ports was very low compared to the required inspection rates of the Mediterranean and Black Sea MOUs over many years (Yavuz, 2003). However, the inspection rates are higher than those required in recent years (2005, 2006 and 2007). Nonetheless, it can be observed that these inspection rates are also very low as compared to the requirements of the Paris MOU to which Turkey made an application for membership in 2007 (UMA, 2007). According to the Paris MOU, each member State should undertake an annual total of inspections corresponding to 25% of the average number of individual foreign merchant ships which entered the ports of its State during the three last calendar years⁷⁶. Mediterranean and Black Sea MOUs requires 15% annual inspection rate of the number of foreign merchant ships⁷⁷.

In addition, considering the special position of the Turkish Straits, it has taken some special measures to provide for the navigational safety and to prevent possible marine accidents along the straits. The Turkish Straits Maritime Traffic Regulation⁷⁸ came into effect in 1998 providing necessary arrangements for the traffic separation scheme and traffic routing lines and notification obligations for the passing vessels through the straits. Considering the heavy maritime traffic along the straits, a Vessel Traffic System for Turkish Straits (VTSTS) has been established and this system went into operation in 2003. VTSTS provides navigational aid services and traffic organization services around the clock by means of stations administered by using state of the art technology to the vessels passing through the straits⁷⁹.

In spite of the above-mentioned efforts to provide a safe navigation through the straits, the possibility of an accident along the straits is still high because of the increasing amount of vessel traffic along the straits and the limitation of the intervention right of the Turkish Republic due to the Montreux Convention on the vessels passing through the straits (Guclu, 2000).

⁷⁶ Paris Memorandum of Understanding on Port State Control, Section I Commitments, entered into force on 1 July 1982.

⁷⁷ Memorandum of Understanding on Port State Control in the Black Sea Region, Section 1, Commitments, entered into force on 19 December 2000. Memorandum of Understanding on Port State Control in the Mediterranean Region, Section I Commitments, entered into force on 11 July 1997.

⁷⁸ Turkish Straits Maritime Traffic Regulation, Official Gazette No: 23515 of November 6, 1998.

⁷⁹ Directorate General of Coastal Safety official web site, [<http://www.dgcs.gov.tr/default.asp?id=0&lng=en>], 13 November 2008.

Passage through the Turkish Straits is regulated by the Montreux Convention⁸⁰ of 1936 which falls outside UNCLOS to which Turkey is not a signatory. The navigation regime through international straits envisaged by UNCLOS does not apply to Turkish Straits, because according to UNCLOS Part III⁸¹, the legal regime in Turkish Straits is regulated in whole by a long-standing international convention specifically related with these Straits (Fornari, 2005).

The Montreux Convention relating to the regime of the Turkish Straits provides freedom of passage and navigation for merchant vessels of any flag with any kind of cargo, by day and by night. Moreover, pilotage and towage remain optional⁸². There is no possibility to intervene any vessels making a free passage along the straits if they refuse obedience to the instructions and warnings. Only if the passage becomes harmful and dangerous, does Turkey has the right to intervene the vessels (Bakirci and Etyemez 2005). For that reason, the VTSTS system can only provide some information and navigational advice without having binding effect on the foreign vessels. Furthermore, even the Turkish Straits Maritime Traffic Regulation aiming to regulate the passage through the straits to prevent vessel accidents and provide an uninterrupted vessel passage is perceived by some countries as a loss of rights as codified in the Montreux Convention (Martin, 1999).

2.1.4. Developing an Implementation Strategy

With the enactment of the OSRL and promulgation of the supporting legislative framework, Turkey's oil spill policy has entered a new era. The country is now at the very beginning of the implementation period. The success or the failure of the OSRL will most probably be determined by the implementation of this legislative framework and enforcement of its requirements. Furthermore, to provide a sound and effective implementation of the OSRL, identification of the deficiencies in the OSRL and challenges that need to be overcome to make a sound implementation is very important to take remedial or necessary actions.

⁸⁰ Montreux Convention, Convention Regarding the Regime of the Straits Signed at Montreux, 20 July 1936.

⁸¹ UNCLOS according to its Part III - Straits Used for International Navigation - does not affect the legal regime in straits in which passage is regulated in whole or in part by long-standing international conventions in force specifically relating to such straits.

⁸² Montreux Convention, Section I, Article 2.

In this respect, firstly, we should evaluate the responding capability of the OSRL to the influencing factors causing the enactment of the law (see Table 2):

Turkey enacted the OSRL to fulfill its commitments with respect to being a party to the OPRC. With the enactment of the OSRL, Turkey's oil spill response policy is now more compatible with the international regime. Turkey has just started to prepare contingency plans to increase national preparedness and response capacity as required by the OPRC.

Insufficient regulatory framework to deal with the oil spills and protect the marine environment was replaced by a specific law and related legal framework directly addressing oil spills. OSRL identified the authorities and their responsibilities, thus clarifying the previous confusion. It required contingency planning for oil spills with the ability to expand and contract according to the size and level of the incidents so as to provide sufficient response capacity by using every possible abilities at the local, regional and national level. It provided consistency with identifying the general framework of the planning understanding. OSRL entails risk-assessment based planning understanding, so that national and regional contingency plans and facility response plans are to be prepared on the bases of risk assessments. This will provide the deployment of the response abilities to the right situations with the enough response equipment.

With the implementation of the actual regulatory framework, it is also expected to respond to the potential oil spills more efficiently. After the preparation of the contingency plans based on the risk assessments, it is expected to have an effective response organization with qualified staff. By establishing emergency response centers at the regional level that would be equipped with the necessary trained personnel and response equipment to provide support to the response activities in the case of an emergency, the efficiency of the response activities to the oil spills will increase. That will increase the quality of the oil spill removal and cleanup activities by providing for the removal of the spilled oil before it can result in substantial damage to the marine environments. Given that the oil spills do not occur frequently, to stay prepared so as to effectively respond to an oil spill is very important. With the implementation of the Circular Order specifying the training programs and schedules and periods of the drills, so as to be prepared and stay prepared for the potential oil spill incidents. OSRL and its promulgated

legislations do not involve any direct requirements related with oil spill prevention. However, OSRL requirements on the financial responsibilities of vessels and coastal facilities will influence oil spills by creating an incentive for compliance with the other rules. The extended scope of liability compared to the international regime for damages will be a deterrent for responsible parties, thus inducing them to take necessary precautions not to cause or be involved in any incidents.

Table 2. Evaluation of the Influences and Responses

Influences	Responses	Effectiveness
International Commitments (OPRC)	➤ Enactment of OSRL	➤ Provided compliance with the International Commitments
Insufficient Regulatory Framework	➤ Enactment of OSRL and promulgation of the related legal framework: <ul style="list-style-type: none"> - Identified authorities and responsibilities - Contingency planning (well defined, interrelated, adaptable with the size of the oil spill, risk-assessment based) 	➤ Provided regulatory framework exclusively dealing with oil spills
Potential Oil Spills	➤ Cleanup and removal capability before substantial damage to the marine environments occurs: <ul style="list-style-type: none"> - Extended response capabilities identified with risk assessments, - Establishment of emergency response centers, - Trained personnel and periodic drills ➤ Requirements on the financial responsibilities and extended scope of liability as a deterrent for oil spills	➤ Expected to decreased amount of oil spill incidents and increased amount of oil removed before environmental damage (with an effective implementation and enforcement)

Source: Prepared by the Author.

Briefly, it can be said that OSRL and its related legal framework has responded to the influences through compliance with the international requirements and an exclusive regulatory framework for oil spills. However, the regulatory framework established by the OSRL and related the legal framework has to be implemented and tested by oil spills to see if it is sufficient or not. Although, the OSRL does not deal with the prevention of the potential oil spills, its' compensation and liability requirements will have some positive effects to decrease the amount of oil spills being a deterrent factor to the vessel and coastal facility owners. In addition, if an oil spill occurs, the amount of oil removed before an environmental damage will increase through the increased response capabilities required by the OSRL.

Although, final effectiveness of the OSRL can be only determined through its implementation, the identification of the deficiencies of the OSRL, clarification of the challenges which will be faced during the implementation and making some implications to develop a sound implementation strategy will be very useful (Table 3).

In this respect, if we evaluate the preparedness and response requirements of the OSRL, we can say that OSRL establishes a well-defined and sufficient preparedness and response framework which is interrelated, risk-assessment based and adaptable to the size and level of the oil spill contingency planning. The termination of the regional, national and coastal contingency plans based on the risk assessments most probably would result in extended national response capabilities and abilities. However, given the actual situation, it is clear that there is a lack of enough experienced and qualified personnel at the regional level. It is a necessity to increase the number of qualified personnel. It is also very important to take into consideration that the oil spills do not happen frequently and this situation can result in a decrease of the quality of the preparedness activities that can be handled: Thus periodic and persistent drills are necessary so as to ensure adequate response capabilities. The training programs and drill requirements have been determined in the Circular Order on Training and Drills. However, the content and quality of the training programs are very important. It should provide adequate training materials and prepared guidelines, manuals and technical documents to support the response activities and staff responsible for the response activities. Furthermore, implementation of the periodic drills are very important to keep ready the response system. Another important issue is to make necessary

revisions and updates to the contingency plans by taking feedback from the drills undertaken and by sharing the regional and international experiences. Only in this way can the preparedness and response system be improved without experiencing any oil spills.

OSRL requires financial responsibility documents for vessels and coastal facilities to recover the damages described in the law. The scope of the recoverable damages is more comprehensive and environmental friendly compared to those of the international system, especially by providing extended recovery of the costs of the natural resources damages. However, some deficiencies would prevent the effective implementation of the financial liability requirement of the OSRL. The general conditions for financial liability insurance of the coastal facilities which is declared by the Turkish Treasury does not include every recoverable damage described in the OSRL. This means that in practice the insurance companies will not insure all of the recoverable damages. Therefore additional measures are required to compensate all of the recoverable damages described in the OSRL which will be faced with after an incident.

OSRL requires that financial liability insurance be provided by insurance companies or by a pool that these companies would form among themselves⁸³. However, the recoverable damages that can be compensated by the insurance companies are limited and without any changes in the scope of the general conditions declared by the Turkish Treasury, it is not useful to establish a pool by the insurance companies. As a solution, the content of the general conditions could be amended appropriately with the requirements of the OSRL, or the establishment of a pool by the coastal facilities to compensate the excluded recoverable damages could be undertaken. Nevertheless, the latter requires an amendment of the OSRL so as to give permission to the coastal facilities to establish a pool amongst themselves. This situation needs to be concluded immediately to eliminate the barriers beyond the implementation of the liability requirements of the OSRL. In addition, it is important to identify the contribution amount of the coastal facilities to these pools according to the risk imposed by them.

The heavy tanker traffic along the coastlines of Turkey and especially in the Turkish Straits is another challenge that needs to be overcome to implement an effective oil spill policy

⁸³ OSRL, Section 3, Compensation for Damages, Article 8.

by preventing the potential oil spills. In this respect, port State control and flag State control are very important to provide for safe navigation and accordingly to prevent oil spills by inspecting the compliance of vessels with national and international maritime safety requirements. Although there have been some progress in recent years, Turkey does not have a good record with respect to port State control and flag State control. Therefore, Turkey must increase its inspection rate, as well as the number of inspectors so as not to become a jurisdiction of refuge for foreign low standard vessels. In addition, given that Turkey is now going through the European Union accession process, the port State control inspection level of European Union countries can be used as a target point. Given that the high retention rates of the Turkish fleet, Turkey also has to effectively enforce the national and international requirements on Turkish flagged vessels so as to increase their compliance to the navigational safety standards.

The Turkish Straits are regulated according to provisions of the Montreux Convention providing for the free passage of foreign vessels and Turkey has very limited intervention rights to provide for a safe passage of those vessels. Most of the oil spills have happened through the Turkish Straits, and with the actual heavy tanker traffic and limited right to regulate the passage in the straits, it is also expected that a possible oil spill will probably will occur along the Straits. That issue is one of the most important challenges which must be dealt with through an international solution before a disastrous oil spill occurs.

Table 3. General Evaluation of the OSRL Efficiency and Challenges Faced

	Evaluation of the OSRL	Deficiencies in OSRL	Challenges Faced to Implement the OSRL	Recommendations/Needs to be Done for Effective Implementation of OSRL
Preparedness and Response	<ul style="list-style-type: none"> ➤ Contingency Planning: Well defined, interrelated, risk-assessment based, adaptable to the size and level of the oil spill ➤ Extended response capabilities identified with risk-assessments ➤ Trained personnel and periodic drills 	<ul style="list-style-type: none"> ➤ No deficiency 	<ul style="list-style-type: none"> ➤ Lack of enough personnel at the regional level ➤ Lack of experienced and qualified personnel ➤ Infrequent oil spills resulting in loss of preparedness ➤ Being not tested with a major oil spill to illuminate limitations of the OSRL 	<ul style="list-style-type: none"> ➤ Provision of enough personnel ➤ Provision of necessary training programs ➤ Provision of instructors and training materials ➤ Ensure periodic drills ➤ Taking necessary feedback from the drill undertaken and sharing the regional and international experiences and make necessary revisions and updates on the contingency plans accordingly ➤ Make necessary revisions to the coastal facilities response plans according to the periodic risk evaluations ➤ Inspections ➤ Preparation and distribution of the guidelines, manuals and technical documents to support the response activities
Compensation and Liability	<ul style="list-style-type: none"> ➤ Financial responsibility requirement for the vessels and coastal facilities ➤ Extended scope of recoverable damages 	<ul style="list-style-type: none"> ➤ The general conditions for financial liability insurance of the coastal facilities which is declared by the Turkish Treasury does not include every recoverable damages 	<ul style="list-style-type: none"> ➤ The insurance companies will not insure all of the recoverable damages thus some other measures are required to compensate all of the recoverable damages described in the OSRL 	<ul style="list-style-type: none"> ➤ OSRL requires that financial liability insurance will be provided by insurance companies or by a pool that these companies would form among themselves. However, the recoverable damages that can be compensated for by the insurance companies are limited and without any changes in the scope of the general conditions declared by the Turkish Treasury, thus

		<p>described in the OSRL</p> <p>➤ Tariffs of the financial liability insurance of the coastal facilities have not yet been declared by the Turkish Treasury thus preventing the preparation of the insurance contracts</p>		<p>it is not useful to establish a pool by the insurance company. A pool can be established by the coastal facilities to compensate the excluded recoverable damages. However, this requires an amendment to the OSRL. In addition, it is important to identify the contribution amount of the coastal facilities to these pools according to the risk imposed by them.</p> <p>➤ Inspections of compatibility of the vessels and coastal facilities in the terms of liability requirements</p>
Prevention	<p>➤ No direct requirement related with oil spill prevention</p>	<p>➤ No deficiency</p>	<p>➤ Turkish Straits/heavy tanker traffic and Montreux Convention/very limited intervention right for Turkey</p> <p>➤ Port State Control: not enough inspectors and inspections</p> <p>➤ Flag State Control: high retention rate of the Turkish fleet</p>	<p>➤ Find some international solutions before occurs a disastrous accident</p> <p>➤ Port State control levels have to be increase at the level of the European Union countries</p> <p>➤ Decrease in the retention rates of the Turkish flagged vessels in the recent years has to be continued</p>

Source: Prepared by the Author.

2.2. European Union Oil Spill Response Policy: As an Influencing Factor

The European Union has traditionally been a major importer of oil and associated products and 90% of the EU's external trade is transported by sea. Furthermore, the EU oil import has increased over the last thirty years and is expected to continue to do so well into the future. Particularly high tanker traffic in the entrance of the Baltic Sea, the North Sea, the Channel, the Atlantic coast and Mediterranean Sea surrounding the Union and the dramatic increase in the oil imported from the Former Soviet Union through the Baltic and the Black Seas give rise for concern (European Maritime Safety Agency (EMSA), 2004).

In this perspective, the EU has developed a common policy to prevent and response to the oil spills more effectively as a regional organization. Given the fact that Turkey is in the accession process for the EU membership, the EU oil spill response policy will be analyzed in this section to facilitate this process of accession by proposing some policy measures.

2.2.1. EU Oil Spill Preparedness and Response Policy

The legal structure of the preparedness and response policy of the EU is mainly composed of two legislative documents complementing each other:

- Decision No 2850/200/EC of the European Parliament and of the Council of 20 December 2000 setting up a Community framework for cooperation in the field of accidental or deliberate marine pollution; and
- Council Decision 2001/792/EC, Euratom of 23 October 2001 establishing a Community mechanism to facilitate reinforced cooperation in civil protection assistance intervention⁸⁴.

The Community framework required by Decision No 2850/200/EC established for the period 1 January 2000 to 31 December 2006⁸⁵ and set a legal basis for the role of the European Community in the field of response to accidental or deliberate marine pollution. Its aim is to:

⁸⁴ This Decision was recast by Council Decision of 2007/779/EC, Euratom of 8 November 2007 establishing a Community Civil Protection Mechanism (recast).

⁸⁵ Decision No 2850/200/EC, Article 1 (1).

- Support and supplement Member States' efforts at national, regional and local levels for the protection of the environment against the risks of accidental or deliberate pollution at sea;
- Contribute to improving the capabilities of the Member States for response in case of incidents involving spills;
- To strengthen the conditions for and facilitate efficient mutual assistance and cooperation between Member States; and
- Promote cooperation among Member States in order to provide for compensation for damage in accordance with the polluter-pays principle⁸⁶.

The Commission implements the framework for co-operation via:

- A Community Information System (CIS) for the purpose of exchanging data on the preparedness for and response to accidental or deliberate marine pollution between the Member States⁸⁷. CIS, which is accessible on the Commission's internet site⁸⁸, provides data on intervention capacity and measures taken in the event of accidental or deliberate marine pollution by the Member States;
- The co-financing of projects which include actions such as course and workshops, exchange of experts, exercises and post-incident environmental impact surveys in the scope of annual action plan based in particular on the priorities drawn up each year together with the Member States⁸⁹; and
- The Management Committee for Marine Pollution⁹⁰ (MCMP) which brings together high level Government experts with the role of exchanging views on response to oil pollution, expressing their opinion regarding actions to be taken and defining the current and future priorities (EMSA, 2004). The MCMP acts also as a unique European forum for the exchange of good practice between the Member States⁹¹.

The budget allocated for the implementation of this framework for the period 2000 to 2006 was set at EUR 7 million⁹². The European Parliament decided to adjust the reference

⁸⁶ Decision No 2850/200/EC, Clause 2.

⁸⁷ *Ibid.*, Article 2 (a).

⁸⁸ Community Information System, [http://ec.europa.eu/environment/civil/marin/cis/cis_index.htm], 12 February 2009.

⁸⁹ Decision No 2850/200/EC, Article 2 (b).

⁹⁰ *Ibid.*, Article 4 (1).

⁹¹ COM (2006) 863 final, Brussels, 22 December 2006, [Communication from the Commission to the Council and the European Parliament, to the European Economic and Social Committee and to the Committee of the Regions, Cooperation in the Field of Accidental or Deliberate Marine Pollution after 2007].

⁹² Decision No 2850/200/EC, Article 2 (c).

amounts in order to take into account the enlargement of the EU and the importance of the Community framework and the budget raised to EUR 12.6 million for the same period⁹³.

Since 2000, many actions in training and information such as courses and workshops, exchange of experts and exercises have been carried out with projects attended by Member States in the scope of the Community framework⁹⁴. The actions focused on a variety of subjects to improve the preparedness capacity of the Member States including response to accidental oil pollution, contingency planning, oil spill waste treatment and disposal, impact of oil spills, environmental damage and restoration.

The CIS hosted on the Commission's internet site and supported by the Member States as a tool that provides necessary information to Community cooperation was constantly updated through the period 2000-2006 particularly in order to take account of the enlargement of the EU⁹⁵.

After implemented, and during the period 2000-2006, the Community framework for cooperation was not renewed in its current form considering that the European Maritime Safety Agency (EMSA) would play an increased role in this field⁹⁶. The EMSA was established by the Regulation (EC) No 1406/2002⁹⁷ for the purpose of ensuring a high, uniform and effective level of maritime safety and prevention of pollution by ships within the Community by providing the Member States and the Commission with technical and scientific assistance⁹⁸. Regulation (EC) No 724/2004⁹⁹ promulgated in 2004 amended the former Regulation by mandating EMSA possible to implement preparedness actions for establishing effective intervention operations by

⁹³ COM (2006) 863 final.

⁹⁴ EU official web site, Actions available at [http://ec.europa.eu/environment/civil/marin/mp05_en_projects.htm], 14 February 2009.

⁹⁵ COM (2006) 863 final.

⁹⁶ *Ibid.*

⁹⁷ Regulation (EC) No 1406/2002 of the European Parliament and of the Council of 27 June 2002 establishing a European Maritime Safety Agency.

⁹⁸ *Ibid.*, Article 1, Paragraph I-II.

⁹⁹ Regulation (EC) No 724/2004 of the European Parliament and of the Council of 31 March 2004 amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency.

providing technical and scientific assistance in the field of accidental or deliberate pollution by ships¹⁰⁰.

The MCMP was converted to a kind of forum for exchange of good practices which brings together those responsible for preparedness and response in the Member States at least once year. The CIS remained as a tool that provides necessary information to Community cooperation.

A Community Civil Protection Mechanism was established by Council Decision 2001/792/EC²³ in 2001, with the general mandate to provide, on request, support in the event of major emergencies¹⁰¹ and to facilitate improved coordination of assistance intervention provided by the Member States and the Community¹⁰². The Mechanism mainly provides necessary on-demand support in the event of an emergency by pooling the civil protection capabilities of the participating States when the scale of the emergency is such that national response capacity is insufficient. Participation in the Mechanism is open to candidate countries and other third countries and international or regional organizations may cooperate in activities under the Mechanism¹⁰³. The Mechanism includes all types of major emergencies including accidental marine pollution¹⁰⁴.

The Mechanism uses the following elements and actions to facilitate both adequate preparedness and effective response to emergencies at a community level:

- *Monitoring and Information Center*¹⁰⁵ (MIC)

The MIC is operated by Directorate General of the European Union and accessible 24 hours a day. Any country inside or outside the Union affected by a major emergency can make an appeal

¹⁰⁰ Regulation (EC) No 724/2004, Article 1, Paragraph I-III; Article 2, Paragraph a-b-c-f-g; Article 10, Paragraph II, Article XV, Paragraph II.

¹⁰¹ Major emergency: means any situation which has or may have an adverse impact on people, the environment or property and which may result in a call for assistance under the Mechanism. Council [Decision of 2007/779/EC, Euratom of 8 November 2007 establishing a Community Civil Protection Mechanism (recast), Article 3, Paragraph 1].

¹⁰² Regulation (EC) No 724/2004, Article 1, Paragraph I-III; Article 2, Paragraph a-b-c-f-g; Article 10, Paragraph 4.

¹⁰³ *Ibid.*, Article 10.

¹⁰⁴ *Ibid.*, Paragraph 6.

¹⁰⁵ Decision of 2007/779/EC, Article 2, Paragraph 5.

for assistance through the MIC. It provides a central forum for participating States to access and share information about the available resources and the assistance offered. It provides and disseminates information on the actual status of an ongoing emergency¹⁰⁶.

- *The Common Emergency and Information System (CECIS)*

The CECIS established to enable communication and sharing of information between the MIC and the contact points of the Mechanism in the participating States¹⁰⁷. It is a web based alert and notification system which facilitates emergency communication¹⁰⁸.

- *Training Programs*

Training programs are to be prepared to improve the coordination of civil protection assistance interventions by ensuring compatibility and complementarity between the intervention teams from the participating States¹⁰⁹

- *Civil Protection Modules*

These modules are mobile operational teams made of national resources from one or more Member States on a voluntary basis and constitute a contribution to the civil protection rapid response capability¹¹⁰. Thirteen civil protection modules have been identified¹¹¹ covering search and rescue, aerial fire fighting, medical assistance, chemical, biological, radiological and nuclear detection and sampling (CBRN). Although most of these modules are not directly related to respond to oil spills, they can contribute the effectiveness of the oil spill response operations. They can facilitate the oil spill response operations by dealing with other emergencies that can happen during and oil spill.

¹⁰⁶ EU official web site, detailed information available at: [<http://ec.europa.eu/environment/civil/protection/mic.htm>], 18 February 2009.

¹⁰⁷ Decision of 2007/779/EC, Article 2, Paragraph 6.

¹⁰⁸ EU official web site, [<http://ec.europa.eu/environment/civil/cecis.htm>], 18 February 2009.

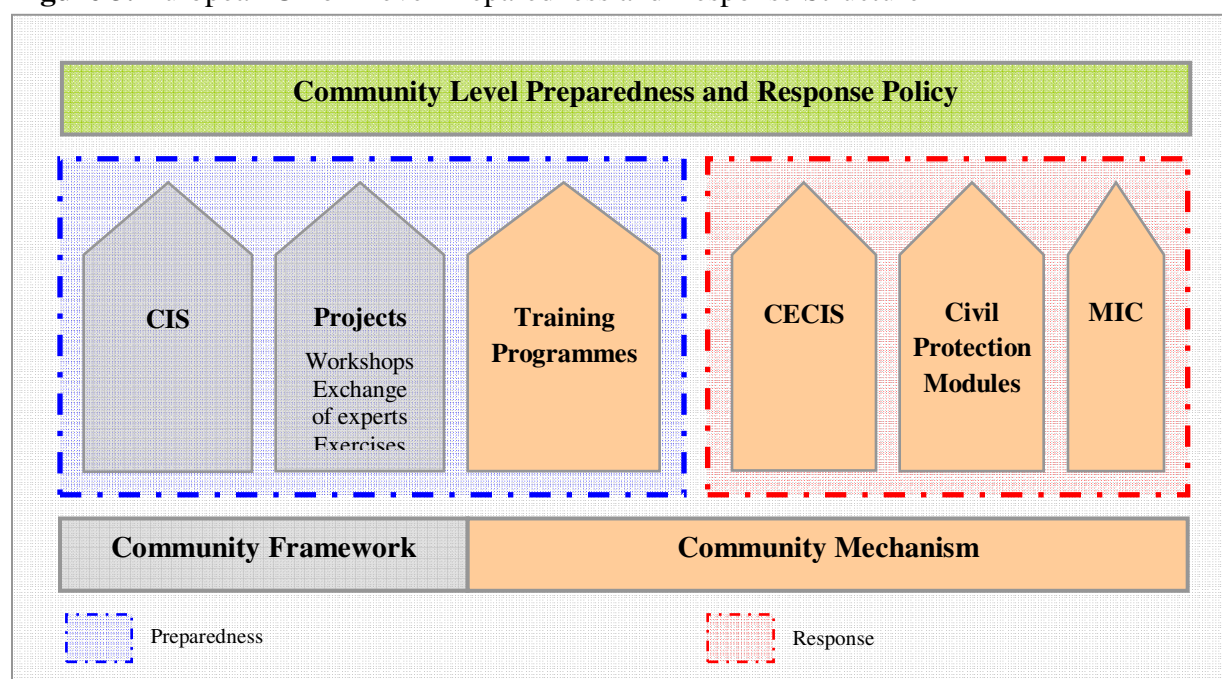
¹⁰⁹ Decision of 2007/779/EC, Paragraph 8.

¹¹⁰ Decision of 2008/73/EC, Euratom, amending Decision 2004/277/EC, Euratom as regards rules for the implementation of Council Decision 2007/779/EC, Euratom establishing a Community civil protection mechanism, Paragraph 2.

¹¹¹ *Ibid.*, Annex I.

The Mechanism allows response to any major disaster inside and outside the EU by coordinating requests and offers. In this context, The Mechanism has responded to request for assistance by providing equipment, material and technical expertise during various oil spill incidents all around the world¹¹².

Figure 3. European Union Level Preparedness and Response Structure



Source: Prepared by the Author.

As visualized in the Figure 3, Community level preparedness and response policy is implemented through Community Framework and Community Mechanism. The framework and Mechanism provide CIS, Community supported projects, training programmes, CECIS, civil protection modules and MIC as instruments for supporting and supplementing the member States' capabilities and facilitating cooperation and coordination between the member States and community for both preparedness and response to oil spill incidents. Because the Community Framework was not renewed after 2006, the contribution made by the projects providing opportunity to organize workshops, exchange of experts and exercises to improve the

¹¹² European Union interventions to the oil spills and their related reports. Available at [http://ec.europa.eu/environment/civil/marin/mp06_en_contingency.htm], 21 February 2009.

preparedness of the member States in case of an emergency in the scope of the framework will be fulfilled by the activities carried out by EMSA and other community programmes¹¹³.

The main aim of this policy is to support the member States as a top-level coordinator in order to make the European Union's emergency response more consistent and efficient without:

Prejudice to the responsibility of coastal States to have appropriate pollution response mechanisms in place and respecting existing cooperation between Member States¹¹⁴, and

Affect the reciprocal rights and obligations of the member States under bilateral or multilateral treaties¹¹⁵.

In this respect, many Member States' oil spill preparedness and response policy is based on OPRC 1990 which has been widely ratified by member States¹¹⁶. However, implementation of the established measures for dealing with pollution incidents has taken different forms even amongst the Member States who have ratified OPRC 1990 in terms of contingency planning, investment in and the availability of the oil pollution response equipment¹¹⁷ (EMSA, 2004).

The resources required during accidental pollution incidents at sea can frequently be beyond the means of a single country. Hence, a number of member States and other non-member littoral States have concluded regional agreements to render mutual assistance whenever a pollution incident threatens their coasts. All major seas in the Community are covered by regional agreements (Figure 4). The European Community is also a contracting Party to the most relevant regional agreements which are described below:

¹¹³ COM (2006) 863 final, Brussels, 22 December 2006.

¹¹⁴ Regulation (EC) No 724/2004 of the European Parliament and of the Council of 31 March 2004 amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency, Article 1. 1 (b).

¹¹⁵ Decision of 2007/779/EC, Euratom of 8 November 2007 establishing a Community Civil Protection Mechanism (recast), Paragraph 5.

¹¹⁶ The Member States who are party to the OPRC 1990 available at [http://www.imo.org/Conventions/mainframe.asp?topic_id=248], 8 February 2009.

¹¹⁷ European Community Information System, [http://ec.europa.eu/environment/civil/marin/cis/cis_index.htm], 9 February 2009.

- Helsinki Convention (HELCOM)

HELCOM was adopted in 1974 and entered into force in 1980. In light of political changes, a new convention was signed by all the countries bordering the Baltic Sea, as well as the European Community, in 1992 and entered into force on 17 January 2000. The main goal of HELCOM is to protect the marine environment of the Baltic Sea from all sources of pollution¹¹⁸.

- Barcelona Convention

The Mediterranean Action Plan (MAP) was created under the United Nations Environment Programme (UNEP) in 1975 and 16 Mediterranean countries and the European Community adopted this plan. A year later, these Parties adopted the Barcelona convention which entered into force in 1978 to protect the marine environment and the coastal region of the Mediterranean¹¹⁹.

- Bonn Agreement

Bonn Agreement was established in 1969 following the *Torrey Canyon* oil spill by Belgium, Denmark, France, Germany, the Netherlands, Norway, Sweden and the United Kingdom to provide a mechanism for cooperation in combating accidental marine pollution in North Sea. When the Agreement was revised in 1983, the European Community became a Contracting Party¹²⁰.

- Lisbon Agreement

The Lisbon Agreement is aimed at promoting mutual assistance between France, Spain, Portugal and Morocco in 1990 by providing an international framework for co-operation in combating accidental marine pollution. However, the Agreement has not yet entered into force (EMSA, 2004).

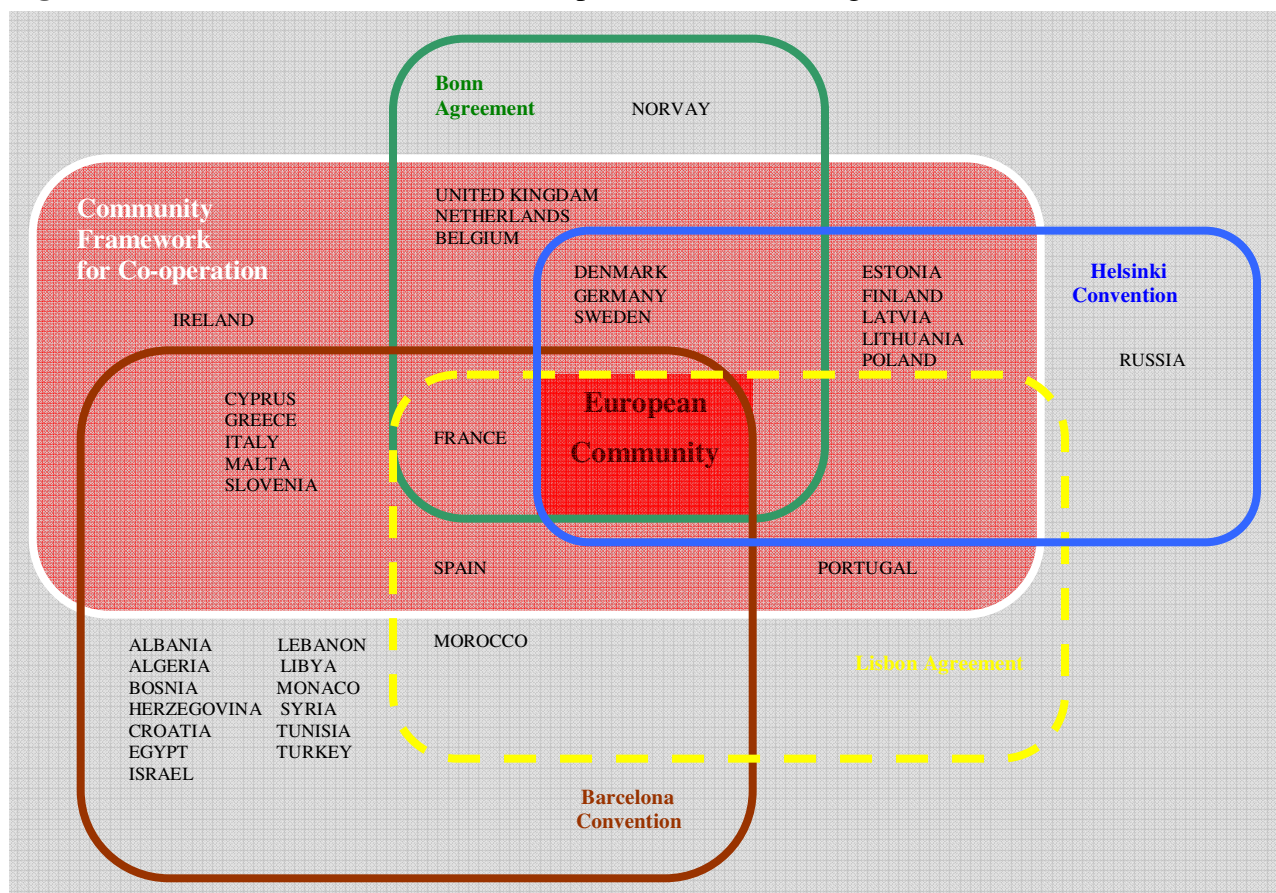
¹¹⁸ Helsinki Commission official web site, more information is available at [<http://www.helcom.fi/>], 18 February 2009.

¹¹⁹ UNEP official web site, more information is available at [<http://www.unepmap.org/>], 18 February 2009.

¹²⁰ Bonn Agreement official web site, more information is available at [<http://www.bonnagreement.org/>], 18 February 2009.

As illustrated in figure below, the member States carry out their efforts to address marine pollution individually and regionally under the Community's umbrella which has an important facilitating and coordinating role. In this respect, the report prepared by the European Evaluation Consortium for the European Commission Directorate-General for Environment evaluates that the role taken by the Community is relevant and complementary with their objectives and made an important contribution to protect the marine environment. However, it underlines that there is still some way to go in integrating member States' policies and actions in this field (The European Evaluation Consortium, 2005).

Figure 4. International Framework for Co-operation in Combating Pollution



Source: European Commission, International Cooperation for Combating Marine Pollution, [http://ec.europa.eu/environment/civil/marin/mp07_en_international.htm], 28 February 2009.

2.2.2. EU Oil Spill Liability and Compensation Policy

Compensation and liability for pollution damage caused by oil spills from oil tankers is governed by an international regime constituted by the 1969 Civil Liability Convention and 1971 Fund Convention. Almost all of the EU member States with a coastline became party to this international regime by ratifying these conventions¹²¹.

Following the *Erika* and the *Prestige* oil spill incidents¹²² in 1999 and 2002 respectively, the inadequacy of the international regime raised the question of whether the international regime for the liability and compensation of oil pollution damage after a marine accident is still effective (Faure and Hui, 2003). The maximum amount of compensation available under the international regime to pay compensation for pollution damage from the *Erika* and *Prestige* were much less than total amounts of claims¹²³ and extensive damage caused clearly far exceed the compensation available from the ship-owner and the IOPCF (Fayett, 2005).

These incidents especially affected the EU member States causing enormous damage on their marine and coastal environment. Therefore, this situation led the European Commission to take some initiatives and since the EC has played a very important role in the process of updating the international regime of oil-pollution liability and compensation (Faure and Hui, 2003).

In the wake of the *Erika* incident, the Legal Committee of IMO has adopted amendments to raise by 50% the limits of compensation payable to victims of pollution by oil from oil tankers in October 2000 with the effect of the European Commission and this change entered into force on 1 November 2003. The amendments raised the limits payable to 89.77 million Special Drawing Rights (SDR) for a ship over 140,000 gross tonnage up from 59.7 million SDR

¹²¹ Poland has deposited an instrument of accession but for which the Protocol enters into force until 9 March 2009. States parties of the CLC 92 and FUND 92 are listed on the official web site of the IOPCF, [<http://www.iopcfund.org/npdf/genE.pdf>], 21 February 2009.

¹²² The *Erika*, an Italian-owned oil tanker of some 37,000 deadweight tons broke up in 12 December 2000 polluting 400 kilometers of the French coastline with heavy fuel oil. The *Prestige*, a Bahamas registered tanker laden with 77,000 tons of heavy oil broke in two off the coast of Spain on 13 November 2002 spilling an unknown but substantial quantity of its cargo contaminating the north coast of Spain and France. Detailed information on the incidents are available at official website of IOPCF, [<http://www.iopcfund.org/>], 23 February 2009.

¹²³ Detailed information is available on the official web site of IOPCF, [<http://www.iopcfund.org/erika.htm>] and [<http://www.iopcfund.org/prestige.htm>], 23 February 2009.

established by the CLC 1992. Besides, the IOPCF amendments raised the maximum amount of compensation payable from the IOPC Fund for a single incident to 203 million SDR up from 135 million SDR¹²⁴.

Furthermore, the European Commission still concerned with the inadequate limits of liability proposed that the EU establish a separate European Community compensation fund to provide enough recovery for the pollution damages as a third tier of compensation up to a limit of one billion euros as a response to the shortfall of the international oil liability pollution fund¹²⁵. The international system respond to this initiative by proposing a Supplementary Fund to be open to all members of the FUND 92 in order to protect the integrity of the international system. Following this proposal, the European Union decided to join this Supplementary Fund and proceed by improving the international system rather than by establishing another fund (Fayett, 2005). Therefore, the 2003 Protocol establishing an International Oil Pollution Compensation Supplementary Fund was adopted in a diplomatic conference in May 2003 and entered into force in March 2005¹²⁶. The Council of the European Union decided that all Member States should ratify the IOPC Fund Supplementary Fund Protocol during its 2629th Council Meeting in December 2004¹²⁷. The ratification process of the Supplementary Compensation Fund is under way in a number of Fund member States. 22 States are party to the Supplementary Fund Protocol as at February 2009 and most of them are EU member States¹²⁸.

However, the insufficiency of the limits of the liability was not the only issue that was raised by the European Commission concerning the inadequacy of the international regime in the

¹²⁴ IMO official web site, [http://www.imo.org/newsroom/mainframe.asp?topic_id=280&doc_id=775], 28 February 2009.

¹²⁵ Proposal for a Regulation of the European Parliament and the Council on the establishment of a fund for the compensation of oil pollution damage in European waters and related measures, COM(2000) 802-C5-0700/00-2000/326 (COD).

¹²⁶ Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil pollution Damage 1992, text in IMO Doc. LEG/CONF.14/20.

¹²⁷ Press Release of 2629th Council Meeting. Transport, Telecommunication and Energy. 15472/04 (Presse 345) Brussels, 9-10 December 2004, [http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/trans/83037.pdf], 01 March 2009.

¹²⁸ Bulgaria, Cyprus, Malta, Romania are not yet party to the Protocol as coastal EU member States. Poland has deposited an instrument of accession but for which the Protocol does not enter into force until 9 March 2009. Detailed information is available on the official web site of IOPCF, [<http://www.iopcfund.org/npdf/genE.pdf>], 04 March 2009.

wake of the incidents. The Commission, as highlighted in its Communication of December 2002, presented its considerations on the other issues:

[...] There is a need for a better balance between the responsibility of the players involved in the transport of oil by sea and their exposure to liability and for stricter application of the polluter pays principle. Since action at international level is the only way to achieve such amendments, Member States' action and support is essential in achieving this. In this regard, Member States should in particular support proposals aimed at restricting the right of ship-owners to limit their financial liability if the accident is due to their actual fault and proposals aimed at removing the *de facto* immunity of other key players, in particular the charterer, operator or manager of the ship from compensation claims (other than from recourse claims by the registered owner). Moreover, as it stands, the international regime does not provide for adequate compensation for damage to the environment as such (ecological restoration)¹²⁹.

The above statement clearly displays the European Union policy on oil pollution compensation and liability; There are still many concerns on the adequacy of the actual international system and a willingness to establish a better compensation tool based on polluter pays principle, providing enough recovery especially for the environmental damages and contributing to the prevention of oil pollution incidents. However, the "European Union thus not only aims at the prevention of and compensation for oil pollution damage under the Community Framework, but also aims at the protection of its interests at the international level" (Faure, M. and Hu J. 2006). In this respect, it can be said that the EU will continue to be the part of the international system and the international system seems to be improved with the initiatives of the European Union.

2.2.3. EU Maritime Safety Policy

IMO has developed over the years a series of international conventions to improve the safety at sea by providing an international framework for the prevention of marine oil

¹²⁹ COM(2002) 681 final, Communication from the Commission to the European Parliament and to the Council on Improving Safety at Sea in Response to the Prestige Accident, 3 December 2002.

pollution¹³⁰. The EU recognized the IMO as a competent body for dealing with maritime safety and protection of the marine environment and built its own legislation mainly on the basis of IMO Conventions or Resolutions (Zia-Mansoor, 2005).

Community-wide maritime safety measures started after 1978 in the wake of some major oil spill disasters which occurred off the European coasts by means of some formal declarations or resolutions encouraging member States to ratify international conventions¹³¹.

As a result of the enactment of the Oil Pollution Act of 1990 in the USA which by established its own free-standing legislative framework, the Community faced the challenges posed by its US counterpart by adopting its “common policy on safe seas” (Hui, 2004). This policy was based on the establishment of a convergent implementation of existing international rules on maritime safety and an enhancement of safety and prevention of pollution at sea for the elimination of substandard shipping in Community waters¹³². Several important Regulations and Directives which constitute the core of the EU Maritime Safety Policy contributing at least indirectly to the prevention of the oil spills have been adopted following the Communication (Table 4).

However, the last two *Erika 1999* and *Prestige 2002* disasters raised some concerns on the effectiveness of the international regime and the EU legislation stimulating various proposals for changes relating to maritime safety (Thebault, 2004). In response, the Community adopted more stringent maritime safety measures in its reactions to these oil spills which also resulted in more changes at the international level (Hui, 2004).

¹³⁰ These Conventions: SOLAS, MARPOL, STCW, COLREGs, ISM, Convention on the International Maritime Satellite Organization and International Convention on Load Lines. Detailed information available at IMO official web site, [http://www.imo.org/Conventions/mainframe.asp?topic_id=257], 5 March 2009.

¹³¹ Council Recommendation of 26 June 1978 on the ratification of Conventions on Safety Shipping, 78/584/EEC, OJ L 194, 19/07/1978, Council Recommendation of 21 December 1978 on the Ratification of the 1978 International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 79/114/EEC, OJ L 033, 08/02/1979, Council Resolution on the Prevention of Accidents Causing Marine Pollution, 90/818/EEC, OJ L 206/1, 18.08.1990.

¹³² Communication from the Commission, A Common Policy on Safe Seas, COM(93) 66 final, 27/02/1993 and Council Resolution of 8 June 1993 on a Common Policy on Safe Seas, OJ C 271, 07/10/1993 P. 0001 – 0003.

Following the *Erika* incident, the Commission adopted two sets of legislative proposals so-called Erika-I package¹³³ and Erika-II package¹³⁴ in order to better protect European waters against the risk of accidental oil spills. Those packages included the measures described below main measures to strengthen the existing rules (Urrutia, 2006):

- The amendment of the port State control regime in particular by introducing of a banning rule for ships over 15 years (instead of 20 or 25 years) old from all EU ports that have been detained more than twice in the preceding two years and the publication of 'black list' of banned ships every 6 months. (Legislation amending the port State control entered into force 22 July 2003¹³⁵ which was the deadline for the Member States to transpose the legislation into national law¹³⁶);
- The reinforcement of the control regime of classification societies with the introduction of more stringent quality criteria to be met by the recognized organizations and with the increased EU surveillance of the quality standards of classification societies. The obligation to follow stringent control over organizations in case of transfer of class such as the transmission of the complete history file of the ship to the new classification society¹³⁷. (Directive 2001/105/EC¹³⁸ proposal was adopted and entered into force 19 December 2001 to tighten and harmonize the Community arrangements on classification societies.);
- The introduction of the accelerated phasing out of single hull tankers and a financial incentive mechanism for a reduction on port and pilotage dues for double hull tankers¹³⁹. (Following this proposal and under the pressure from the EU the IMO adopted an amendment to the MARPOL Convention to introduced a new global timetable for accelerating the phase out of single hull oil tankers on 27 April 2001 and the 2001 amendments to MARPOL 73/78 entered into force 1 September 2003 (Hui, 2004). Afterwards, EU adopted Regulation 417/2002¹⁴⁰ on 18 February 2002

¹³³ COM (2000) 142 Final, Communication from the Commission to the European Parliament and the Council on the Safety of the Seaborne Oil Trade 21 March 2000.

¹³⁴ COM (2000) 802 Final, Communication from the Commission to the European Parliament and the Council on a Second Set of Community Measures on Maritime Safety Following the Sinking of the Oil *Tanker Erika*, 6 December 2000.

¹³⁵ Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 95/21/EC concerning the enforcement, in respect of shipping using Community ports and sailing in the waters under the jurisdiction of the Member States, of international standards for ship safety, pollution prevention and shipboard living and working conditions (port State control), OJ L019, 22.01.2002 p. 0017-0031.

¹³⁶ COM (2000) 142 Final.

¹³⁷ *Ibid.*

¹³⁸ Directive 2001/105/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 94/57/EC on common rules and standards for ship inspection and survey organizations and for the relevant activities of maritime administrations, OJ L19/16 22.01.2002 p. 0017-0031.

¹³⁹ COM (2000) 142 Final.

¹⁴⁰ Regulation (EC) No 417/2002 of the European Parliament and of the Council of 18 February 2002 on the accelerated phasing-in of double hull or equivalent design requirements for single hull oil tankers and repealing Council Regulation (EC) No 2978/94.

based on the amended international regime. The original Commission proposal for phasing out dates including a more ambitious schedule did not obtain the necessary political support);

- The establishment of a Community vessel traffic monitoring and information system and an extended reporting obligations¹⁴¹. (In this scope, the Directive 2002/59/EC was adopted and entered into force on 27 June 2002); and
- The establishment of the EMSA for providing the Commission and the Member States with support in applying and monitoring compliance with Community law and in assessing the effectiveness of the measures in place¹⁴². (EMSA established in 2002 by the Regulation 1406/2002¹⁴³ of 27 June).

In the aftermath of the *Prestige* oil spill incident in 2002, the EU decided to take stronger commitments in the crucial matter of maritime safety giving rise to:

- The acceleration of the phase-out scheme for single hull tankers;
- The restriction the transport of heavy grades of oil to double-hulled tankers only;
- The requirement of periodic structural survey as a condition to allow the continued operation of EU-flagged single hull tankers of 15 years age or more¹⁴⁴;
- The improvement the controls in EU ports by recruiting a sufficient number of port State control inspector and to implement the measures necessary to achieve a sufficient inspection rate at all ports in the Union (Thebault, 2004);
- The joint submission of the EU Member States to IMO for amending Annex I of MARPOL 73/78 for introduction of single hull measures at international level as equivalent to those adopted at EU level (Urrutia, 2006); and
- The introduction of the Erika III package (Psaraftis, 2006).

It is worth nothing that for the first time the EU Member States decided to implement safety rules (single hull measures) in the maritime sector representing a deviation from IMO

¹⁴¹ COM (2000) 802 Final.

¹⁴² *Ibid.*

¹⁴³ Regulation (EC) No 1406/2002 of the European Parliament and of the Council of 27 June 2002 establishing a European Maritime Safety Agency OJ L208 05.08.2002 p.1.

¹⁴⁴ Regulation (EC) No 1726/2003 of the European Parliament and of the Council of 22 July 2003 amending Regulation (EC) No 417/2002 on the accelerated phasing-in of double-hull or equivalent design requirements for single-hull oil tankers.

rules (Urrutia, 2006). However, with the influence of the joint submission and efforts of the EU member States, the same standards were adopted by the IMO thus closing the gap between the international regime and the EU regime (Hui, 2004). In this respect, revisions to 13 G Regulation of MARPOL 73/78 were made to accelerate further the phase-out schedule¹⁴⁵.

The third Maritime Safety Package (Erika III) was presented at the end of 2005 by the Commission to the European Parliament and Council including seven measures intended to supplement and improve the efficiency of the existing European legislation on maritime safety by means of more proactive policy¹⁴⁶. These proposals and their main purposes¹⁴⁷ are:

- Proposal for new a directive on the conformity requirement of flag States to make the standards stemming from the IMO rules concerning responsibilities of flag States mandatory for all EU Member States¹⁴⁸;
- Amendment to strengthen the Directive 94/57/EC on classification societies¹⁴⁹ requiring the approved bodies introducing a common quality control structure and a reform of the system of sanctions against societies which fail to meet the requirements;
- Amendment of Port State Control Directive 2001/106/EC¹⁵⁰ in order to detect and eliminate substandard ships by requiring new types of controls e.g. onboard insurance certificate, stepped up sanctions imposed on substandard ships and a new stricter inspection regime;
- Amendment of the Traffic Monitoring Directive 2002/59/EC¹⁵¹ for establishing a clear and precise legal framework for places of refuge by providing a legal

¹⁴⁵ IMO official web site, Tanker Safety, MARPOL Convention, [http://www.imo.org/Safety/mainframe.asp?topic_id=155], 30 March 2009.

¹⁴⁶ Communication from the Commission, Third Package of Legislative Measures on Maritime Safety in the European Union, COM(2005) 585 final, 23 November 2005.

¹⁴⁷ MEMO/05/438 of 23/11/2005, [<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/05/438>], 06 March 2009.

¹⁴⁸ Commission Proposal for a Directive of the European Parliament and of the Council on Compliance with flag State Requirements, COM(2005) 586 final, 2005/0236 (COD), 23 November 2005.

¹⁴⁹ Commission Proposal for a Directive of the European Parliament and of the Council on Common Rules and Standards for Ship Inspection and Survey Organizations and for the Relevant Activities of Maritime Administrations, COM(2005) 587 final, 2005/0237 (COD), 23 November 2005.

¹⁵⁰ Commission Proposal for a Directive of the European Parliament and of the Council On Port State Control, COM(2005) 588 final, 2005/0238 (COD), 23 November 2005.

¹⁵¹ Commission Proposal for a Directive of the European Parliament and of the Council Amending Directive 2002/59/EC Establishing a Community Vessel Traffic Monitoring and Information System, COM(2005) 589 final, 2005/0239 (COD), 23 November 2005.

framework to designation of independent authorities in the Member States responsible for designating the most appropriate place of refuge along EU coasts;

- Proposal of a new directive establishing the principles for conducting investigations on marine accidents¹⁵². The aim of this proposal is to improve maritime safety by providing for clear Community guidelines concerning technical investigation following accidents at sea as the basis for drawing all possible lessons and feedback with the view to issuing safety recommendation for prevention purposes;
- A new regulation on liability and compensation for damage of passenger in the event of maritime accidents¹⁵³ proposing the incorporation into Community law the provisions of the Athens Convention¹⁵⁴ and extend these provisions which are only applicable to the international journeys to cover domestic maritime traffic and inland waters; and
- A new directive establishing requirements on civil liability and financial securities of ship-owners¹⁵⁵. These requirements include the modernization of the international conventions such as CLC and IOPCF to provide satisfactory recovery of the damages and a uniform approach of the Member States to and other types of damage.

None of the proposed measures have been approved by the Council and Parliament because of the diverging opinions of the member States¹⁵⁶. However, the Conciliation Committee has recently reached an agreement on the five legislative proposals in the third package on maritime safety including traffic monitoring, accident investigation, port State control, liability of carriers of passengers and classification societies¹⁵⁷. The agreement is still waiting for approval by the Parliament and the Council in order for the set of proposals to be adopted.

¹⁵² Commission Proposal for a Directive of the European Parliament and of the Council Establishing the Fundamental Principles Governing the Investigation of Accidents in the Maritime Transport Sector and Amending Directives 1999/35/EC and 2002/59/EC, COM(2005) 590 final, 2005/0240 (COD), 23 November 2005.

¹⁵³ Commission Proposal for a Regulation of the European Parliament and of the Council on the Liability of Carriers of Passengers by Sea and Inland Waterways in the Event of Accidents, COM(2005) 592 final, 2005/0241 (COD), 23 November 2005.

¹⁵⁴ Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, Adoption: 13 December 1974, Entered into force: 28 April 1987. Detailed information available in the IMO official web site, [http://www.imo.org/Conventions/mainframe.asp?topic_id=256&doc_id=663], 8 March 2009.

¹⁵⁵ Commission Proposal for a Directive of the European Parliament And the Council on the Civil Liability and Financial Guarantees of Ship-owners, COM(2005) 593 final, 2005/0242 (COD), 23 November 2005.

¹⁵⁶ Detailed information on the process of the Third Maritime Safety Package is available at EU official web site, [<http://www.euractiv.com/en/transport/maritime-safety/article-157042>], 10 March 2009.

¹⁵⁷ Parliament and Council Conciliation Committee, Agreement on the Third Maritime Package, Brussels, 9 December 2008, 16939/08 (Presse 363), [http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/misc/104776.pdf], 7 March 2009.

As a result, it can be said that in the perspective of the maritime safety the EU became very active especially after the *Erika* and *Prestige* incidents by taking a variety of initiatives to promote the maritime safety and achieved considerable success in its aim (Zia-Mansoor, 2005). Doing this, the EU preferred and tried to solve the problem within the context of international regime by causing many improvements in the international safety standards. However, it is important to emphasize that even if the EU safety legislation is compatible with the international regime, there is an important difference on the implementation and enforcement of the rules making the Community more effective when comparing the international regime. In spite of the stringent rules established in the international conventions, IMO has no instruments to ensure an effective enforcement of these rules but relying on the States to sign and ratify the international conventions while EU may impose binding rules on its member States through its institutions (Hui, 2004).

Table 4. EC Regulations and Directives in the Field of Maritime Safety

Title/Area	Regulation/Directive	Amendments	
		Title/Area	Regulation/Directive
Classification societies	Council Directive 94/57/EC of 22 November 1994	Classification societies	Directive 2001/105/EC of the European Parliament and of the Council of 19 December 2001 Amending Council Directive 94/57/EC
Use of oil tankers with segregated ballast tanks, including double hull oil tankers and oil tankers of an alternative design	Council Regulation (EC) No 2978/94 of 21 November 1994 on the Implementation of IMO Resolution A.747(18) on the Application of Tonnage Measurement of Ballast Spaces in Segregated ballast oil Tankers	Accelerated phasing-in of double hull or equivalent design requirements for single hull oil tankers	Council Regulation (EC) No 417/2002 of the European Parliament and of the Council of 18 February 2002 Repealing Council Regulation (EC) No 2978/94 Council Regulation (EC) No 1726/2003 of the European Parliament and of the Council of 22 July 2003 amending Regulation (EC) No 417/2002
Port State control	Council Directive 95/21/EC of 19 June 1995	Port State control	Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 Amending Council Directive 95/21/EC
Safety management of ro-ro passenger ferries	Council Regulation (EC) No 3051/95 of 8 December 1995	-	

Marine equipment	Council Directive 96/98/EC of 20 December 1996	-	
Safety rules and standards for passenger ships	Council Directive 98/18/EC of 17 March 1998	Safety rules and standards for passenger ships	Directive 2003/24/EC of the European Parliament and of the Council of 14 April 2003 amending Council Directive 98/18/EC
Working hours of seafarers	Directive 1999/95/EC of the European Parliament and of the Council of 13 December 1999	-	
Training and qualification of seafarers	Directive 2001/25/EC of the European Parliament and of the Council of 4 April 2001	-	
Safe loading and unloading of bulk carriers	Directive 2001/96/EC of the European Parliament and of the Council of 4 December 2001	-	
Notification requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods	Council Directive 93/75/EEC of 13 September 1993	Vessel traffic monitoring and information system	Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 Establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC
Segregated ballast tanks and double hull oil tankers	Council Regulation (EC) No 2978/94 of 21 November 1994	-	

Source: Compiled by the Author from: EMSA official web site, [http://www.emsa.europa.eu/end645d005.html].

2.2.4. Policy Measures: Facilitation to the EU Accession Process

The EU has been developed its own oil spill policy to provide an adequate community level preparedness, response and prevention framework to deal with oil spill incidents. This framework is composed of recommendations, facilitating tools and community level binding

legislative measures. The main principles of this framework are to improve the coordination, cooperation and capacity of the member States and to ensure the uniformity in the Community.

Turkey as a prospective EU Member State is in the process of being the party of the EU and it has to benefit from the means provided by this framework and prepare itself for the obligations after its membership. After analyzing the EU oil spill policy, it has developed the “Policy Measures” outlined below so as to facilitate the Turkey’s EU accession process:

Policy Measure 1: *“Good Implementation and Enforcement of the OPRL”*

Turkey is party to the OPRC 1990 and its oil spill preparedness and response policy is based on it as most of the other member States. Turkey has recently enacted the OPRL to fulfill the commitments of this Convention. In this respect, Turkey has no actual problem to harmonize its preparedness and response legislative framework with the EU policy. However, the good implementation and enforcement of the OPRL requirements may be one of the main challenges that will be faced during the accession period.

Policy Measure 2: *“Participation to the Community Civil Protection Mechanism”*

Participation to the Community Civil Protection Mechanism is open to candidate countries. Taking into account that the mechanism provides on-demand support in the event of an emergency, improved co-ordination among the participating countries and training programs on preparedness and response, Turkey can benefit from this mechanism. Especially considering that Turkey is at the beginning of the process of implementation of its new and comprehensive preparedness and response policy, the platform provided by this mechanism will be useful for experience sharing and capacity building.

Policy Measure 3: *“Contingency Planning and Consideration of the Possible EU Response Assistance Capabilities”*

Turkey is now in the process of preparation of its national contingency plan considering the national and regional response capacity according to the different levels of possible oil spills.

Turkey may or may not participate to the Mechanism, however the Mechanism allows response to any major disaster inside and outside the EU by providing response assistance. In this respect, Turkey should take into account the response capacity that can be provided by the EU in their national contingency plans in case of a major emergency beyond the national and regional response abilities.

Policy Measure 4: *“Maritime Safety: Comparative Assessment and Policy Identification”*

The international maritime safety rules are formed by a huge legislative framework with many requirements. The EU member States are the party to most of the international conventions and EU maritime safety measures can be described as a good implementation and enforcement of the international rules supported by additional and stricter requirements.

However, Turkey does not have a good record of port State control, which is the important indicator of effective maritime safety, with the high retention rate of the Turkish fleet as a sign of insufficient enforcement of the existing rules. Besides, Turkey is not yet party to the some international conventions required in the EU port State control mechanism established by the Paris MOU and related community directives such as the additional protocols of the SOLAS Convention 78 and 88, additional protocol of the Load Lines 88 and Annex III and IV of the MARPOL 73/78 (Yavuz, 2003).

This research will not provide a detailed comparative analysis of every aspect of the maritime safety requirements of each regime. However, Turkey has to conform to the EU legislative framework and enforce the requirements of this framework during the accession period. In this respect, it is necessary to make a comparative assessment of the Turkish and EU policy on maritime safety to identify the necessary legislative changes and enforcement policy with a careful analysis of their implications.

Policy Measure 5: *“Participation to the Supplementary Fund Protocol”*

With respect to the oil pollution and compensation, the EU is part of the international system and it can be said that the international system has improved through initiatives of the EU. Although

Turkey ratified the main agreements establishing the international system such as CLC 92 and FUND 92 Conventions, it has not yet signed the Supplementary Fund Protocol. The EU urges all Member States to ratify the Supplementary Fund Protocol.

Annual contributions to the Supplementary Fund are made in respect of each member State by any person who has received total quantities of contributing oil exceeding 150,000 tones after sea transport¹⁵⁸. However, at least 1 million tones of contributing oil will be deemed to have been received each year in each member State¹⁵⁹. Turkey's contributing oil amount was about 24 million tons in 2005 is a very small percentage of the actual Supplementary Fund member States' total contributing oil amount that is about 900 million tons (International Oil Pollution Compensation Funds, 2007).

This section of the paper provided a detailed analysis of the current situation with respect to Turkey's oil spill policy and considered influencing factors that gave rise to the development of this policy. It determined the deficiencies of this policy and challenges that need to be overcome during the implementation of this policy. It also proposed measures for a sound and effective implementation strategy of this policy. In addition, EU oil spill policy as an influencing factors was reviewed to facilitate the integration of Turkey into the EU.

In this respect, policy makers should take into consideration that:

- OSRL and its related legal framework have responded to the influences through compliance with the international requirements and an exclusive regulatory preparedness and response framework for oil spill;
- There is a need for increasing the institutional capacity;
- The realization of periodic drills are very important to maintain the response system at an effective operational level and to incorporate drill feedback so as to improve and revise the contingency plans;

¹⁵⁸ Protocol of 2003 to the international convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992, text in IMO Doc. LEG/CONF.14/20, Contributions, Article 10.

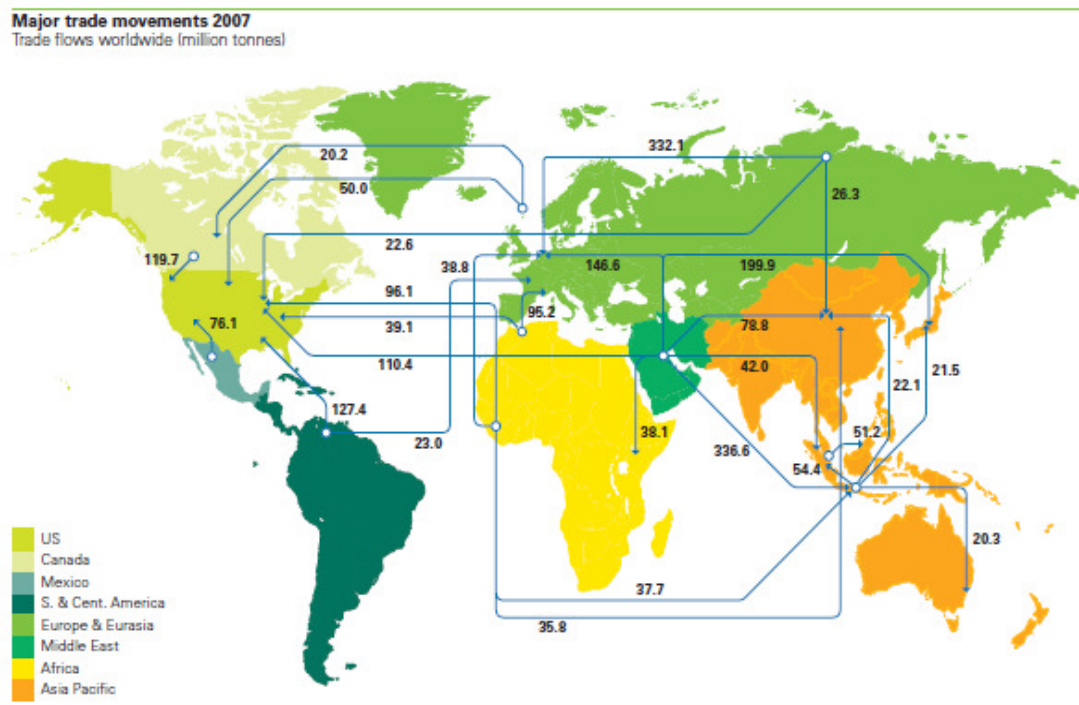
¹⁵⁹ *Ibid.*, Article 14

- The deficiencies which will prevent the effective implementation of the financial liability requirement of the OSRL has to be removed;
- Turkish Straits which experience heavy tanker traffic is one of the most important challenges which must be addressed through an international solution;
- Turkey should benefit from the means of preparedness and response in respect of oil spills that can be provided by the EU;
- Turkey's should make a detailed analysis of its maritime safety policy both to improve it and to make a comparative assessment of Turkish and EU policy so as to identify the necessary legislative changes and enforcement policy with a careful analysis of their implications.

3. FACTORS INFLUENCING TURKEY'S IMPLEMENTATION STRATEGY OF OIL SPILL RESPONSE LAW

The United States is one of the major oil producing States and is the biggest oil consuming country. The US is surrounded by oceans and a vast majority of its oil is transported by these oceans resulting in very high tanker traffic along the coastlines of the US (Figure 5). The US enacted the Oil Pollution Act in 1990 to deal with the oil spills along its coastlines. Turkey, which is also surrounded by seas and is situated very close to the most important oil producing countries of the world, also experiences heavy tanker traffic as a transit country by foreign-flagged tankers carrying oil. In this context, this section of the paper addresses the manner in which the US has implemented a similar law to gain insights into the implementation of the Turkish OSRL.

Figure 5. Worldwide Oil Trade Movements



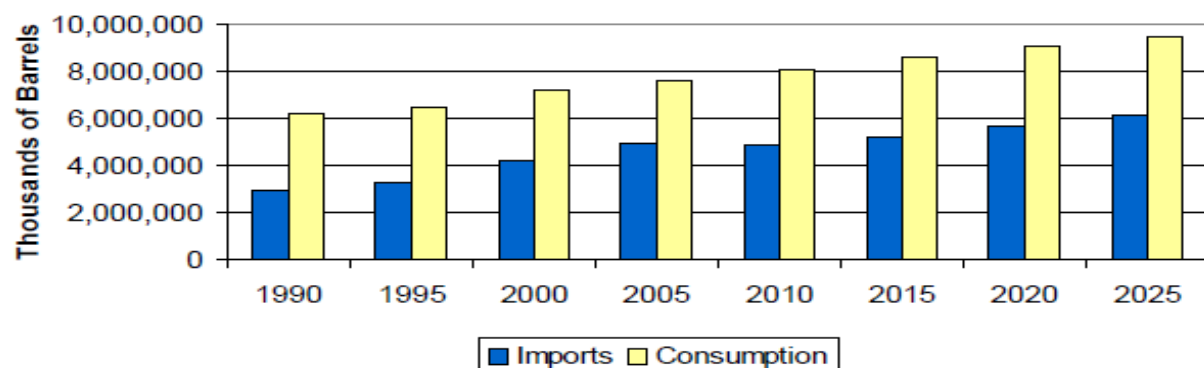
Source: BP (2008). Statistical Review of World Energy.

3.1. US Oil Spill Response Policy and Its Implementation

3.1.1. Oil and Oil Spills in the United States

Oil being one of the major energy sources of the entire world has a dominant role in the United States. Considering oil production: the United States is currently the third largest oil-producing nation after Saudi Arabia and Russia. On the other hand, in respect to oil consumption, there is a more dramatic picture as the US represents about one-quarter of all world consumption. The United States is supplying approximately 40% of its energy needs from oil and its products (Ramseur, 2007). According to a United States Government Accountability Office (GAO) report on Crude Oil (GAO, 2007), consumption of petroleum products in the United States increased an average of 1.65 percent annually from 1983 to 2004, reaching 20.6 million barrels per day in 2005. The Energy Information Administration (EIA) is expecting that the United States consumption will continue to increase and will reach 22.8 million barrels per day in 2030 (EIA, 2008). It seems that oil will remain the major energy source for the United States at least for near future due to its continued increase in consumption and import (Figure 6). Therefore, vast quantities of oil continuously enter the country via vessels or pipelines and are then transported to destinations throughout the nation. With such widespread use and non-stop movement, it is inevitable that some spills will occur (Ramseur, 2007).

Figure 6. US Oil Imports and Consumption: Actual (1990-2005) and Projected (2010-2025)

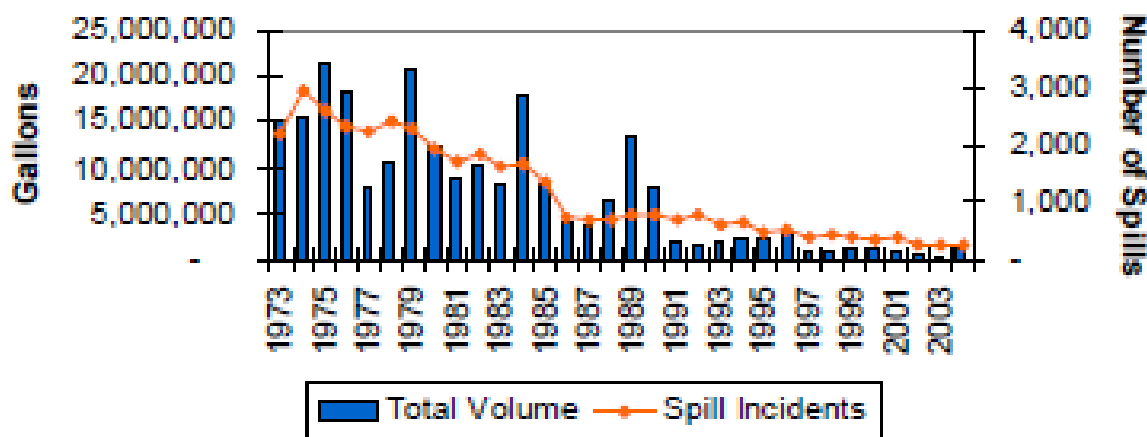


Source: Ramseur (2007)

It is thus normal that some oil spills caused by various reasons and from different sources would occur in such a region or nation which handles such huge amounts of consumption and import. The Clean Water Act¹⁶⁰ (CWA) requires that any discharge of an oil or hazardous substance in a harmful quantity be reported to the United States Coast Guard (USCG) which is designated as the appropriate agency¹⁶¹.

Generally, the statistical analysis based on the USCG data obtained from a Congressional Research Service (CRS) report (Ramseur, 2007), itself derived from USCG data from 1973 to 2003, gives a general trend of oil spills considering both the volume and number of oil spills in United States coastal waters (Figure 7).

Figure 7. Volume and Number of Oil Spills for Incidents above 100 Gallons in US Coastal Waters, 1973-2004



Source: Prepared by CRS with data from USCG Oil Spill Compendium, available from National Technical Information Service, [<http://www.ntis.gov/>], 12 September 2008.

If we go further into statistical analysis, between 1996-2000, there was an average of 8,391 oil spills in the United States navigable waters with 1,538 thousand gallons average volume of spilled oil (Table 5). Between 2001 and 2005, the average number of oil spills in United States navigable waters was 3,535, with 632,000 gallons as the average volume of spilled oil (Table 5). However, it is important to emphasize that the number of oil spills under 10 gallons is much higher than number of larger oil spills. For example, 6,434 of 8,391 spills between 1996

¹⁶⁰ Federal Water Pollution Control Act, P.L. 92-500, as amended, codified at 33 U.S.C. 1251, et seq.

¹⁶¹ Executive Order 11735, dated August 3, 1973, designated the USCG as the appropriate agency.

and 2000 where smaller than 10 gallons (Table 6). However, the exact opposite of this situation can be seen with respect to the volume of oil spilled: the average amount of oil spilled between 2001 and 2005 was 632,000 gallons, meanwhile only 5,000 gallons of oil was caused by the spills under 10 gallons (Tables 5 and 6) . It can easily be said that the frequency and number of the small sized spills are a majority in number, but give rise to a small portion of total spilled oil. Even if they occur less frequently, the largest component of spilled oil is caused by the bigger size spills.

Table 5. Total Number of Oil Spills by Size: 1996-2005 (in gallons)

Year	Under 10 gallons	10-999 gallons	1,000-9,999 gallons	10,000-99,999 gallons	100,000+ gallons	Total
1996	6,180	1,856	108	16	5	8,165
1997	6,539	1,833	72	17	1	8,462
1998	6,415	1,850	77	7	2	8,351
1999	6,628	1,945	75	13	1	8,662
2000	6,407	1,817	78	10	2	8,314
2001	6,442	2,117	77	18	2	8,656
2002	2,328	885	48	9	1	3,271
2003	2,021	769	26	5	1	2,822
2004	1,938	722	30	5	3	2,698
2005	117	99	9	2	1	228
1996-2000	6,434	1,860	82	13	2	8,391
2001-2005	2,569	918	38	8	2	3,535
% Change	-60%	-51%	-54%	-40%	-20%	-58%

Source: The American Petroleum Institute (API), Oil Spills in US Waters, [http://www.api.org/ehs/water/spills/upload/OIL_SPILLS_REPORT_LO.pdf]

Table 6. Total Volume of Oil Spills by Size: 1996-2005 (in thousand of gallons)¹⁶²

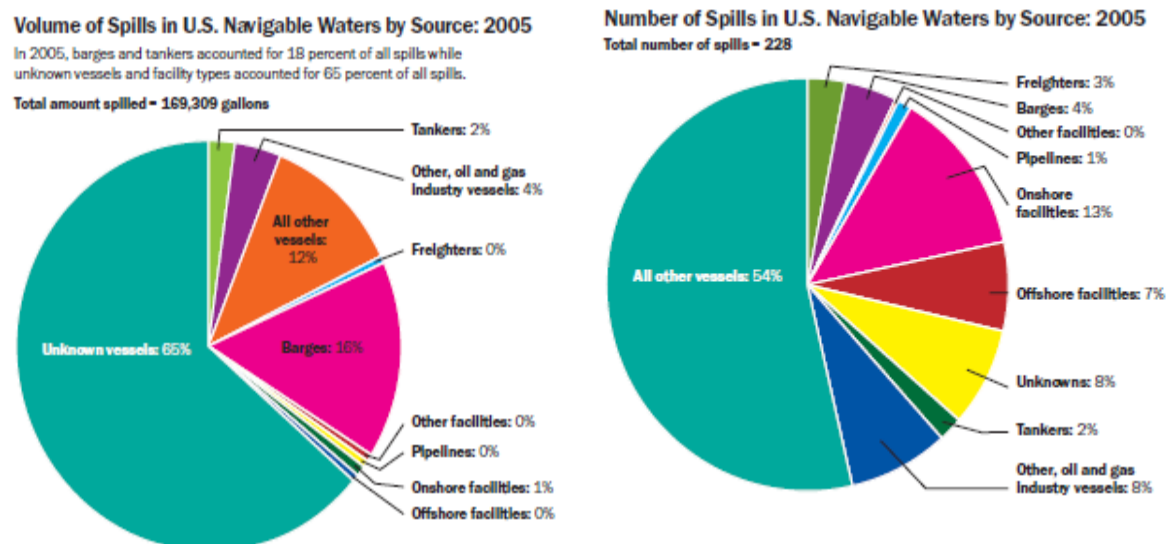
Year	Under 10 gallons	10-999 gallons	1,000-9,999 gallons	10,000-99,999 gallons	100,000+ gallons	Total
1996	11	149	308	414	2,337	3,219
1997	12	121	207	501	210	1,051
1998	12	123	231	124	310	800
1999	13	124	192	569	285	1,183
2000	12	127	219	370	713	1,441
2001	13	146	204	414	299	1,075
2002	5	69	124	277	105	579
2003	4	58	83	111	103	359
2004	3	53	64	221	634	976
2005	0	9	27	24	110	169
1996-2000	12	129	231	395	771	1,538
2001-2005	5	67	100	209	250	632
% Change	-60%	-48%	-57%	-47%	-68%	-59%

Source: The American Petroleum Institute (API), Oil Spills in US Waters, [http://www.api.org/ehs/water/spills/upload/OIL_SPILLS_REPORT_LO.pdf]

¹⁶² A value of zero represents less than 500 gallons.

The other important aspect of oil spills in United States navigable waters is the distribution of oil spills with number and volume by source. According to the American Petroleum Institute (API) Oil Spills in US Waters Report (API, 2007), in 2005 tankers and barges accounted for 18% of the volume of spills, while unknown vessels and facility types accounted for 65%. In that same year, all other vessels account for 12 %, other, oil and gas industry vessels 4%, onshore facilities 1%, for a total amount spilled of 169,000 gallons. The total number of spills in 2005 was 228, consisting of 3% by freighters, 4% by barges, 1% by pipelines, 13% by offshore facilities, 8% by unknowns, 2% by tankers, 8% by other, oil and gas industry vessels and 54% by all other vessels.

Figure 8. Number and Volume of Oil Spills in US Waters by Source in 2005

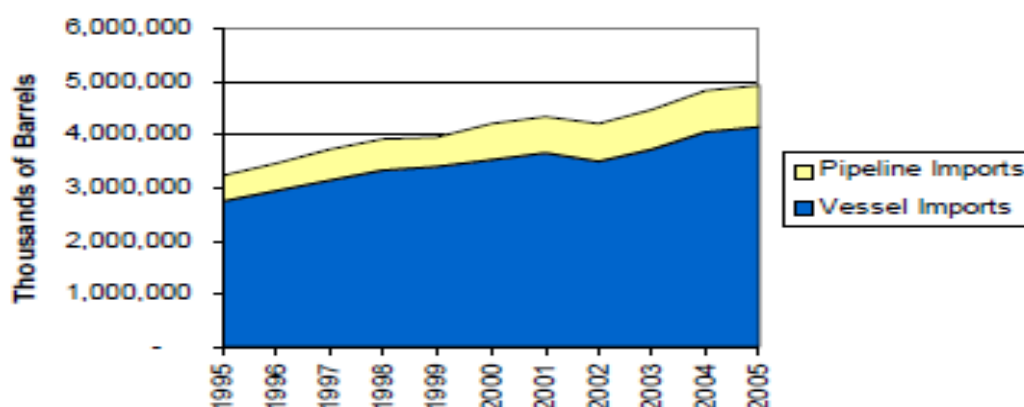


Source: The American Petroleum Institute (API), Oil Spills in US Waters, [http://www.api.org/ehs/water/spills/upload/OIL_SPILLS_REPORT_LO.pdf], 12 September 2008.

Taking into account the portion of the number and volume of oil spills caused by any kind of vessel, it can be said that the cumulative oil spill data in US waters indicates that the number and volume of oil spills have a close relationship with waterborne oil movement (Kim, 2002).

When we look at the average distribution (between of 2000-2005) of United States oil imports by geographic region, the Gulf Coast leads with 55% of all oil imported and the East Coast with 24%, the Midwest and West Coast 9% and the Rocky Mountains 3% (Ramseur, 2007) and the vast majority of US oil import is delivered by marine transportation¹⁶³ (Figure 9).

Figure 9. US Import by Mode of Transportation (1995-2005)



Source: Prepared by CRS with data from EIA online statistics at [http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbbldpd_a.htm], 14 September 2008.

During the last decades, there have been several oil spills in the United States. However, one of these spills was much more important, leading to major public and administrative attention inducing comprehensive legislative changes. In March 1989, the tanker *Exxon Valdez*, en route from Valdez, Alaska to Los Angeles, California grounded on Bligh Reef in Alaska's Prince William Sound. The vessel was traveling outside normal shipping lanes in an attempt to avoid ice. Within six hours of the grounding, the *Exxon Valdez* spilled approximately 10.9 million gallons of its 53 million gallon cargo of crude oil in a very remote, scenic, and biologically diverse and productive area. The oil spread over a wide area affecting over 1,100 miles of non-continuous Alaskan coastline (NOAA, 1992). The *Exxon Valdez* oil spill incident remains the largest oil spill to ever occur in US waters. This event bolstered public concern about the costs and risks of maritime transportation and highlighted the need for greater federal oversight of maritime oil transport (Homan and Steiner, 2007; GAO, 2007a). As a reaction to the *Exxon Valdez* oil tanker accident, the United States Congress enacted the Oil Pollution Act of

¹⁶³ Additional information for vessel traffic density can be obtained from USCG official web site, the AMVER homepage, [<http://www.amver.com/density.asp>], 17 August 2008.

1990¹⁶⁴ (OPA 90) addressing issues associated with prevention, response and compensation for oil pollution from vessels and facilities in US navigable waters (Vanem, 2007). The *Exxon Valdez* spill, the most expensive oil spill in US history, cost \$2.2 billion to clean up. After this incident, less expensive but significant spills have occurred; the tanker *Athos I* spilled 260,000 gallons of crude oil into the Delaware River in 2004 resulting in removal costs and damage claims totaling more than \$120 million, a very little amount of money compared to the *Exxon Valdez* (GAO, 2007a).

3.1.2. Regulatory Framework

3.1.2.1. Pre-OPA 90 Regime

There were many federal statutes related to oil discharges when the *Exxon Valdez* ran aground in March 1989. The CWA 1972¹⁶⁵ formed the basic framework for regulating oil spills, and the other federal statutes provided the necessary regulative framework for specific oil spills (oil spills originated from deepwater ports, pipelines etc.) for supplementing the basic law at the time of the Exxon Valdez (KIM, 2003). CWA mostly regulated oil spills by establishing requirements for oil spill reporting, response and liability and a fund maintained by federal appropriations which could be used for clean up and natural resource restoration in its section 311. The Deepwater Port Act (1974)¹⁶⁶ focused on oil spills and liability issues in deepwater ports and established the Deepwater Port Fund financed by a per gallon tax on oil transferred at deepwater ports to provide prompt cleanup and compensate damages above liability limits. The Trans-Alaska Pipeline Authorization Act (1973)¹⁶⁷ addressed oil spills and liability issues relating to the Trans-Alaska Pipeline System. It also created a fund financed through a lessee fee. The Outer Continental Shelf Lands Act Amendments (1978)¹⁶⁸ established the Offshore Pollution Fund financed by a per-gallon fee on produced oil and liability structure and rules for oil extraction facilities in offshore waters. The National Oil and Hazardous Substances Pollution

¹⁶⁴ Oil Pollution Act of 1990: P.L. 106-580, codified at 33 U.S.C. 2701, et seq.

¹⁶⁵ Federal Water Pollution Control Act, P.L. 92-500, codified at 33 U.S.C. 1501, et seq.

¹⁶⁶ P.L. 93-627, codified at 33 U.S.C. 1501, et seq.

¹⁶⁷ P.L. 93-153, codified at 43 U.S.C. 1651, et seq.

¹⁶⁸ P.L. 95-372, codified at 43 U.S.C. 1801, et seq.

Contingency Plan (NCP)(1968)¹⁶⁹ established in 1968 outlined procedures for responding to releases of oil spills and hazardous substances (Ramseur, 2007; GAO, 2007).

Prior to the *Exxon Valdez* spill, there were some attempts to enact a unified oil pollution law. However, some kind of debates such as State preemption or limitation a State's ability to impose stricter requirements, application of double hull measures for oil-carrying vessels and possible economic effects on oil transportation and accordingly national economy, all hindered the passage of such legislation (Ramsuer, 2007). However, the *Exxon Valdez* oil spill highlighted the present legal framework as an ineffective patchwork not providing adequate cleanup and damage remedies with comprehensive oil spill coverage (Kim, 2003). Furthermore, with the impetus of public concern on the detrimental effects caused by the *Exxon Valdez* on nature, the Congress finally enacted the OPA 90 specifically addressing issues of oil pollution prevention, response, liability and compensation to waterways and coastlines of the United States.

3.1.2.2. OPA 90 Regime

After the tanker Exxon Valdez grounded in Prince William Sound spilling nearly 11 million gallons of crude oil into Alaskan waters, the United States Congress passed the OPA 90. "The act mandated comprehensive oil pollution liability, compensation, prevention and response requirements" (Homan and Steiner, 2007) by "expanding the existing liability provisions within the CWA and creating new free-standing requirements regarding oil spill prevention and response" (Ramseur, 2007). "This act created a regime in which new requirements in a series of different areas were developed, e.g. regarding vessel construction, crew manning and licensing, contingency planning, enhanced response capabilities, increasing penalties, etc" (Vanem, 2007). The key components of the Act are:

- 1- Spill Response Authority¹⁷⁰ (OPA 90 strengthened and clarified the federal Government's role in oil spill response and clean up);

¹⁶⁹ The NCP is codified at 40 CFR Part 300. Federal Water Pollution Control Act in 1972 and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) in 1980 amended the NCP respectively.

¹⁷⁰ OPA Section 4201 amended Section 311 (c) of the Federal Water Pollution Control Act.

- 2- NCP¹⁷¹ which lays out a planning and response system to increase preparedness for and response to oil spills;
- 3- Tank Vessel and Facility Response Plans¹⁷² which requires US tank vessels, offshore and certain onshore facilities to have approved oil spill response plans;
- 4- Double-hull Design for Vessels¹⁷³ requiring new vessels carrying oil and operating in US waters to have double hulls and older vessels have to be retrofitted by 2015;
- 5- Liability and Compensation¹⁷⁴, OPA 90 combined the liability provisions of existing oil spill law and expanded the scope of damages for which an oil spiller could be liable; and
- 6- Oil Spill Liability Trust Fund¹⁷⁵ (OSLTF), OPA 90 provided statutory authorization necessary to put the fund in motion for federal funding of oil spill removal costs and damages.

More than 30 rules have been promulgated as a result of OPA 90 (Homan and Steiner, 2008). These included rules for increased liability limits, contingency response plans, and double hull tank vessel requirements. Important regulations include:

- Guidelines for conducting natural resource damage assessments¹⁷⁶;
- Procedures for States to request payments from the OSLTF for oil spill removal costs¹⁷⁷;
- Claims procedures for uncompensated removal costs or damages from oil spills¹⁷⁸;
- Procedures for the establishment and maintenance of evidence of vessel financial responsibility¹⁷⁹; and
- The National Oil and Hazardous Substances Pollution Contingency Plan¹⁸⁰.

There are also other laws containing some provisions dealing with oil spills. Some of these include CWA, Outer Continental Shelf Lands Act, The Hazardous Liquid Pipeline Act of

¹⁷¹ OPA Section 4202, amending Section 311(j) of the Federal Water Pollution Act.

¹⁷² OPA Section 4202, amending Section 311 (j) (5) (E) of the Federal Water Pollution Control Act.

¹⁷³ OPA Section 4115 and there are exceptions to the new vessel requirements depending on the size and function of the vessel.

¹⁷⁴ OPA Title I.

¹⁷⁵ OPA Title IX.

¹⁷⁶ 15 CFR 990.

¹⁷⁷ 33 CFR 133.

¹⁷⁸ 33 CFR 136.

¹⁷⁹ 33 CFR 138.

¹⁸⁰ 40 CFR 300.

1979 and Pipeline Safety Improvement Act of 2006 Pipeline Legislation. These legislations address oil spill prevention and response issues from different sources such as offshore facilities and onshore facilities and pipelines which may have an impact on coastal waters and waterways.

In addition to these, there are several federal laws indirectly contributing to the prevention of oil pollution from vessels. These include provisions concerning navigation to reduce the possibilities of vessel collision, vessel design standards and control of oil discharges to sea such as the Ports and Waterways Safety Act (1972)¹⁸¹, Act to Prevent Pollution from Ships (1980)¹⁸² and Port and Tanker Safety Act (1978)¹⁸³.

Although there are some supplementary legislative provisions required by some other legal arrangements, OPA 90 is the basic legislation for addressing oil spills. In sum, it can be observed that the enactment of the OPA 90 modified pre-existing legislative framework of oil spill by establishing a unified and exclusive regulatory framework for dealing with the oil spills through provisions for comprehensive liability, compensation and response requirements and additional prevention measures.

3.1.2.3. Authorities

According to the US oil spill legal framework, several federal agencies have the authority to implement necessary measures related to oil spills. Executive Order (EO) 12777¹⁸⁴ delegated authorities according to OPA 1990. Oil spill prevention and preparedness jurisdiction depends on the potential sources (e.g. vessels, facilities and pipelines) of oil spills and the USCG is responsible for potential oil spills from vessels (Table 7). Oil spill response and clean up responsibility were delegated to the Environmental Protection Agency (EPA) and the USCG taking into consideration the location of the spill. EO 12777 has delegated the authorities as hereinafter provided:

¹⁸¹ P.L. 92-340, 33 U.S.C. 1221, et seq.

¹⁸² P.L. 96-478, 33 U.S.C. 1901, et seq.

¹⁸³ P.L. 95-474, codified at 33 U.S.C. 1221-1232 and 46 U.S.C. 3701-3718.

¹⁸⁴ EO 12777, Implementation of Section 311 of the Federal Water Pollution Control Act of October 18, 1972, as Amended, and the Oil Pollution Act of 1990 (October 18, 1991). EO 12777 was amended by EO 13286, February 2006.

National Response System [...] the establishment of methods and procedures for the removal of discharged oil and hazardous substances, and [...] the establishment of criteria for the development and implementation of local and regional oil and hazardous substance removal contingency plans, are delegated to the Administrator (EPA) for the inland zone¹⁸⁵ and the Secretary of the Department in which the Coast Guard is operating for the coastal zone¹⁸⁶ (EO 12777 Sec. 2).

Removal [...] an effective and immediate removal or arrangement for removal of a discharge and mitigation or prevention of a substantial threat of a discharge of oil or a hazardous substance, the direction and monitoring of all Federal, State and private actions, the removal and destruction of a vessel, the issuance of directions, consulting with affected trustees, and removal completion determinations, are delegated to the Administrator (EPA) for the inland zone and to the Secretary of the Department in which the Coast Guard is operating for the coastal zone (EO 12777 Sec. 3).

Table 7. Federal Agency Jurisdiction for Oil Spill Prevention and Preparedness Duties

Potential Source of Oil Spill	Responsible Agency
Vessels	USCG
Onshore, non-transportation facilities	EPA
Onshore, transportation facilities	USCG and Department of Transportation (DOT)
Deepwater ports	USCG and DOT
Offshore facilities (oil/gas extraction)	Minerals Management Service (MMS) within the Department of Interior
Offshore pipelines directly associated with oil extraction activities (e.g. production lines)	MMS
Offshore pipelines not directly associated with oil extraction activities (i.e. transmission lines)	Office of Pipeline Safety (OPS) within the DOT
Inland pipelines	OPS

Source: (Ramseur, 2007)

¹⁸⁵ Inland zone means the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans (40 CFR Section 300.5).

¹⁸⁶ Coastal zone as defined for the purpose of the NCP, means all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans (40 CFR Section 300.5).

Authorities and their responsibilities are defined in detail to deal with the entire potential source of oil spills. Although some other agencies have prevention and preparedness and response responsibilities for different sources of oil spills, the responsibility of implementation of the prevention, preparedness and response measures for the oil spills originating from vessels and marine transportation belong to the USCG. Considering most of the oil spills are caused by the marine transportation, the USCG has a very important role in dealing with the US oil spills. Furthermore, giving the authority to deal with the oil spills occurring in the coastal zones to a single Federal Agency also circumvents the coordination problems that can be experienced by involving many agencies.

3.1.2.4. Prevention

Prevention of an oil spill is the most appropriate strategy for protection of the environment. Spill prevention measures to reduce the risk of oil spills essentially addresses a variety of issues such as improved vessel structural design, traffic monitoring and navigation (improved pilotage, vessel movement system, navigation safety standards including escorts), mariners' certification and licensing, operational failures, liability and financial responsibility and monitoring and inspection.

The US prevention measures are based on various international agreements and federal standards and regulations (Ramseur, 2008) directly or indirectly related with oil spills. The Ports and Waterways Safety Act (PWSA), amended by the Port and Tanker Safety Act (1978) and OPA 90¹⁸⁷, establishes a regime to ensure that vessels operating in ports and waterways meet standards for construction, equipment, manning and operation and promote navigation, vessel safety and protection of the marine environment. The USCG exercising this authority controls vessel movement, directs the handling and movement of hazardous materials and orders the emergency removal of dangerous cargoes including oil (USCG, Marine Safety Manual). The USCG established vessel traffic service/separation (VTSS) for ports, harbors and other waters subject to congested vessel traffic taking the authorization from PWSA to enhance navigation,

¹⁸⁷ "OPA subsequently amended this statute by establishing a phased-in schedule for double-hulled tankers (Ramseur, 2007)".

vessel safety and marine environmental protection. VTSS uses automatic identification systems, radars, cameras and radiotelephone reports from vessel operators to monitor and inform mariners about the status of waterways and recommend or direct mariners to take actions necessary to prevent collisions, allusions and groundings (USCG, VTS Port Arthur User Manual). The Port and Tanker Safety Act of 1978 (PTSA) was enacted to expand equipment and operating requirements for vessels, especially tank vessels and provided the authority for the navigation safety regulations that required navigational equipment, charts, steering, and other operational tests for foreign and domestic vessels entering or leaving US ports and the establishment of the Marine Safety Information System (USCG, Marine Safety Manual).

US flag vessels must pass regular Coast Guard inspections to ensure their compliance with the domestic and international safety requirements. Given that 90% of the calls to US commercial ports are by vessels flying foreign flags, Port State Control measures, which are the efforts of the nations to reduce risks from foreign vessels by checking them for their compliance to the international safety requirements, are also implemented. In this scope, foreign vessels are checked by the Coast Guard based on a risk ranking derived from flag State, classification society, owner, and vessel history. These targeted compliance checks reduce risks posed by foreign ships (Region I and II Regional Response Teams, 2007).

OPA 90 mandated comprehensive oil pollution prevention requirements intended to reduce the potential for future accidents of oil carrying vessels or oil facilities that could result in oil spills and take immediate control of spills that do occur (Homan, 2007; US Department of Transportation 2001).

One of the most notable of these rules is the double-hull tank vessel requirements. Prior to OPA 90, there was considerable debate on the issue of application of double hulls for vessels carrying oil in bulk. Although proponents argued that double-hull construction provides extra protection, there were some opposing views based on the notion that such hulls created stability problems. Furthermore, there was also some concern with respect to the economical impact of a double hull requirement on the shipping industry. The OPA 90 requirements for double hulls reflected some of these concerns, establishing a staggered retrofitting schedule based on vessel

age and size, and providing certain exceptions depending on the size of the vessel and the particular usage of the vessels (Ramseur, 2007).

OPA 90 requires all vessels carrying oil in bulk as cargo in U.S waters to have a double hull by 2015. The act excludes operation of single hull vessels of 5,000 gross tons or more from United States waters after 1 January 2010, with the exception of vessels having a double bottom or double sides which are not permitted to operate after 1 January 2015 depending on their age. The act also requires that new vessels be equipped with a double hull. As an exemption, the act also allows single-hull vessels to use US deepwater ports or lightering areas until 1 January 2015¹⁸⁸.

Another requirement to reduce the likelihood of oil spills from structural failure is the periodic gauging of plating thickness of commercial vessels¹⁸⁹ that carry oil after they have operated for 30 years on navigable waters or the waters of the exclusive economic zone of the United States.

The act requires at least two escort vessels for single hulled tankers over 5,000 gross tons transporting oil in bulk in the Prince William Sound of Alaska and the Puget Sound, Washington¹⁹⁰. OPA 90 also requires overfill warning devices¹⁹¹ to reduce the likelihood of spills when too much oil is pumped into a cargo tank during a transfer operation¹⁹², existing single hull tank vessel of 5,000 gross tons or more to carry certain emergency lightering¹⁹³ equipment on board intended to facilitate rapid transfer of oil from a vessel in the event of a collision or grounding¹⁹⁴ and designation of lightering zones¹⁹⁵. There are also a series of operational measures for single hull vessels¹⁹⁶ to decrease the likelihood of a vessel casualty and the amount of oil discharge after a casualty including: Enhanced vessel survey requirements

¹⁸⁸ OPA 1990 section 4115, amending 46 U.S.C. 3703a.

¹⁸⁹ OPA 1990 section 4109.

¹⁹⁰ OPA 1990 section 4116(c).

¹⁹¹ OPA 1990 section 4110 (b) (1); The overfill device must have an automated system that shuts down transfer of oil before it overflow from the tank. The device must include an independent audible alarm or visible indicator for each tank.

¹⁹² Oil transfer operation from a facility to an oil tanker or tank barge or from one oil tanker or tank barge to another.

¹⁹³ Lightering means the transfer of a cargo of oil from one vessel to another, including all phases of the operation from the beginning of the mooring operation to the departure of the service vessel from the vessel to be lightered.

¹⁹⁴ OPA 1990 section 4115 (b).

¹⁹⁵ OPA 1990 section 4115 (a).

¹⁹⁶ OPA 1990 section 4115 (b).

during dry-docking and vital systems surveys, auto pilot alarm, maneuvering performance capability, minimum under-keel clearance, emergency steering, etc. According to the act, Merchant Mariners' Documents (MMDs) and Certificates of Registry (COR) have to be renewed once every 5 years and all applicants applying for or renewing a license, MMD or COR must be tested for the use of dangerous drugs¹⁹⁷.

One of the other provisions made by OPA 90 is high liability and financial responsibility which creates an incentive for compliance thus has an influence to reduce and prevent the oil spills. This aspect of liability and financial responsibility will be developed below.

3.1.2.5. Preparedness

The Robert T. Stafford Disaster Relief and Emergency Assistance Act¹⁹⁸ constitutes the statutory authority for most federal disaster response activities. The National (Federal) Response Plan (NRP) developed under the provisions of this act presents the guiding principle that enable all response partners to prepare for and provide a unified national response to disasters and emergencies¹⁹⁹. The NRP defines the key principles, roles and structures for a coordinated and effective national response system²⁰⁰.

According to the NRP, a Federal Coordinating Officer (FCO) designated by the President implements the NRP and coordinates the emergency assistance and disaster relief in the case of a declaration of a major disaster. Delivery of federal assistance is facilitated through annexes known as the Emergency Support Function (ESFs) that define the interrelation between the NRP and the other contingency plans. The EPA coordinates activities under ESF #10 addressing preparedness and response for hazardous material and oil incidents. An on-scene coordinator (OSC) coordinates response activities: in the coastal zone it is the USCG and in the inland zone the EPA are the OSC with the FCO to ensure consistency with the federal disaster assistance

¹⁹⁷ OPA 1990 section 4102 (b), (c), (d), (e), 4105 (a), (b), (c), 4101 (b).

¹⁹⁸ Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288.

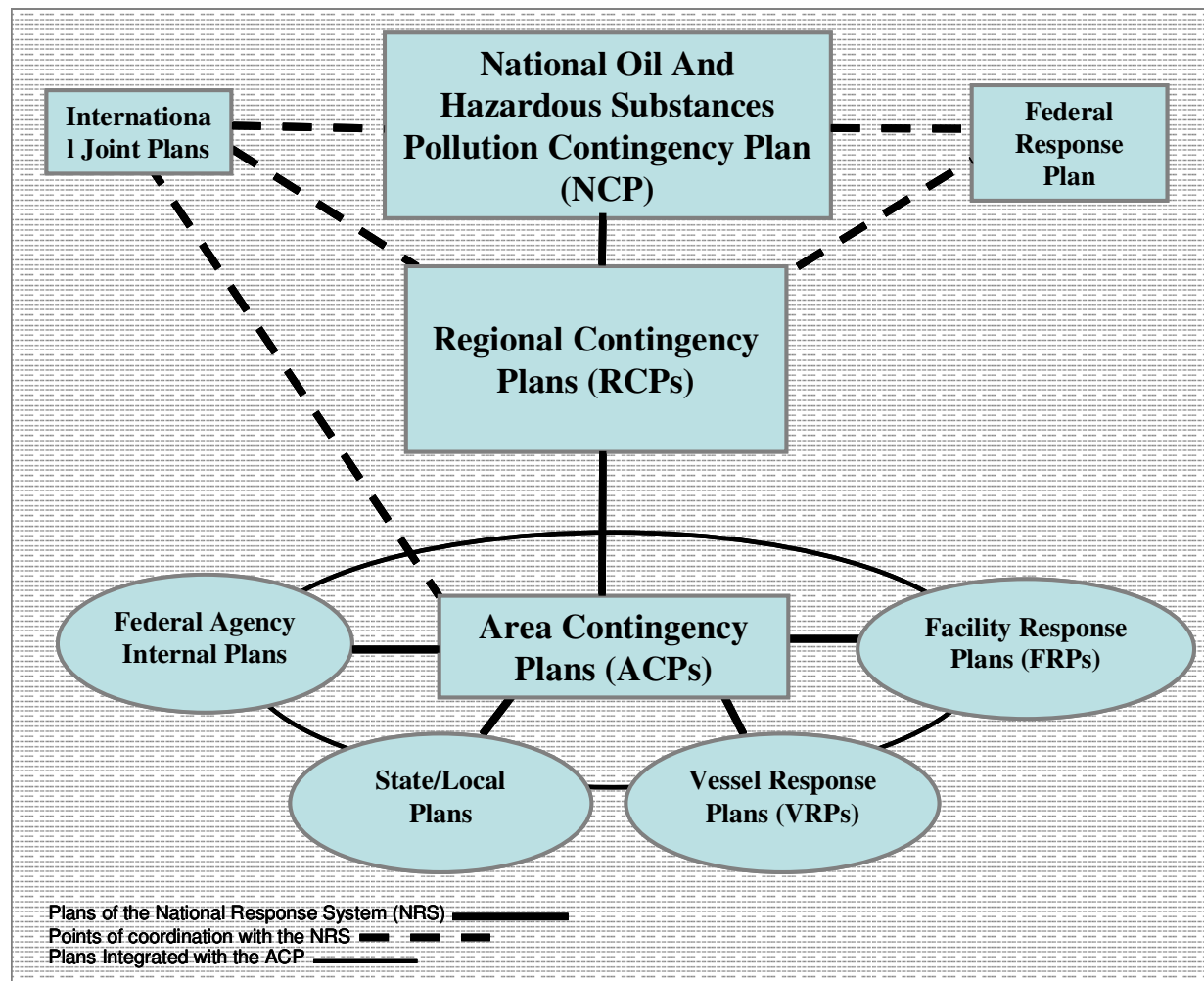
¹⁹⁹ Federal Emergency Management Agency Official web page, [<http://www.fema.gov/about/index.shtm#1>], 28 August 2008.

²⁰⁰ *Ibid.*, [<http://www.fema.gov/emergency/nrf/aboutNRF.htm>], 28 August 2008.

activities so as the ESF #10. NRP is used to supplement other plans and authorities without superseding them (USCG Marine Safety Manual).

United States oil spill preparedness framework consist of three levels of contingency planning on the scale of national, regional and area under the national response system relating to discharges of oil. The National Contingency Plan (NCP) addresses the national response structure and identifies requirements for regional and area preparedness development. Regional and Area contingency plans developed under the guidelines of the NCP address preparedness and response involving federal, State and local Governmental representatives (Figure 10).

Figure 10. Relationship between Plans



Source: 40 CFR 300 §300.205, Planning and Coordination Structure.

National Oil and Hazardous Substances Pollution Contingency Plan - National Contingency Plan (NCP)

As defined in the NCP Authority and Applicability section²⁰¹; this plan is required by section 105 of the Comprehensive Environmental Response, Compensation, Liability Act of 1980 (CERCLA)²⁰², as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and by section 311(d) of the CWA²⁰³, as amended by the Oil Pollution Act of 1990. OPA 90 mandated the revision of the NCP to ensure an efficient response to either an actual or potential pollution incident (USCG Marine Safety Manual) and through Executive Order 12777²⁰⁴ the President delegated to the EPA the responsibility for the amendment of the NCP. Amendments to the NCP were coordinated with members of the National Response Team (NRT) prior to the publication for notice and comment.

The purpose of the NCP is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants²⁰⁵. The NCP, the blueprint for the national response system, identifies the interaction among Federal agencies, State and local governments, industry, and other private parties during an emergency involving oil or hazardous substances. It describes the role of each of the National Response Team agencies and defines the composition, roles and responsibilities of the Regional Response Teams and Area Committees.

The scope of the application or effect of the NCP is defined as:

²⁰¹ 40 CFR 300.

²⁰² 42 U.S.C. 9605 et seq. CWA established to protect the public and environment from discharges involving US waters and their adjacent shorelines was amended in 1973 to provide for a federal spill response mechanism (National Contingency Plan) to minimize damage from oil and hazardous substances. According to Executive Order 11735 (1973) the Council of Environmental Quality developed the National Oil and Hazardous Substances Pollution Contingency Plan. Because the CWA provided for federal response only to those spills involving US waters and their adjoining shorelines, it was recognized that a more comprehensive document was necessary which would encompass all the media under the jurisdiction of the US to satisfy this requirement, the Environmental Protection Agency drafted the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), commonly known as Superfund and congress enacted this Law which gave the Federal Government the authority and funding (i.e. Superfund) to clean up sites contaminated by hazardous waste. (detailed information available at [<http://www.nrc.uscg.mil/nrclegal.html>] and [http://www.uscg.mil/ccs/npfc/About_NPFC/cercla.asp], 5 September 2008).

²⁰³ 33 U.S.C. 1321(d).

²⁰⁴ 56 FR 54757, 22 October 1991.

²⁰⁵ 40 CFR 300 §300.1, Purpose and Objectives.

- (1) Discharges of oil into or on the navigable waters of the United States, on the adjoining shorelines, the waters of the contiguous zone, into waters of the exclusive economic zone, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States; and
- (2) Releases into the environment of hazardous substances, and pollutants or contaminants which may present an imminent and substantial danger to public health or welfare of the United States²⁰⁶.

National Response Team (NRT)

National planning and coordination is accomplished through the NRT. The NRT consists of representatives from the agencies with responsibilities, interests and expertise on emergency response²⁰⁷. NRT provides policy guidance in planning for an incident and any assistance such as technical assistance, access to additional resources and equipment, coordination among Regional Response Teams to the On-Scene Coordinator during incidents. The EPA serves as the chair of the NRT and USCG as vice chair with the exception of periods of activation for a response action. During activation, the chair shall be the member agency providing the OSC²⁰⁸.

Regional Contingency Plans

The NCP requires the development of a Regional Contingency Plan (RCP) by Regional Response Teams working with States for each standard federal region, Alaska, Oceania in the Pacific and Caribbean to coordinate timely, effective response by various federal agencies and other organizations to the discharge of oil or release of hazardous substances²⁰⁹. RCPs shall, as appropriate, include information on all useful facilities and resources in the region, from Government, commercial, academic, and other sources. To the greatest extent possible, RCPs shall follow the format of the NCP and be coordinated with State emergency response plans, ACPs and Title III local emergency response plans. RCPs shall also identify lines of demarcation between the inland and coastal zones as mutually agreed upon by the USCG and the EPA. RCPs

²⁰⁶ 40 CFR 300§ 300.3, Scope.

²⁰⁷ Agencies named in 40 CFR 300 § 300.175 (b).

²⁰⁸ 40 CFR 300§ 300.110, National Response Team.

²⁰⁹ 40 CFR 300§ 300.115, Regional Response Teams (b) (1).

will provide guidance to the OSC in obtaining assistance within a region for incidents beyond a local plan's scope²¹⁰.

Regional Response Team (RRT)

Regional planning and coordination of preparedness and response actions is accomplished through RRT. The NCP describes the organization and responsibilities of RRTs which consist of designated representatives of NRT agencies at the regional level, State Governments and local Governments. RRTs' jurisdiction corresponds to the standard federal regions, and Alaska, Oceania in the Pacific and the Caribbean regions have separate RRTs. The role of RRTs include communications systems and procedures, planning, coordination, training, evaluation, preparedness and related matters on a region wide basis. It also includes coordination of the Area Committees for these functions in areas within their respective regions, as appropriate. RRTs are co-chaired by the EPA and the USCG, except when the RRT is activated. When the RRT is activated for response actions, the chair shall be the member agency providing the OSC and affected States may participate in all RRT deliberations. State Government representatives participating in the RRT have the same status as any federal member of the RRT²¹¹.

The RRTs are required to develop RCP:

Regions are envisioned to have multiple areas. In its planning and coordination role, the RRT provides oversight and consistency review for areas within a given region. This includes facilitating the process of ensuring that Area Committees within a region are mutually supportive and that links to extra-regional response concerns, considerations, and capabilities are maintained. This regional/area approach allows local area personnel to focus on specific issues such as risks, sensitive area prioritization, and response strategies that need to be tailored to a smaller, more manageable geographic scale²¹².

²¹⁰ 40 CFR 300 §300.210, Federal Contingency Plans (b).

²¹¹ 40 CFR 300 §300.115, Regional Response Teams.

²¹² USCG Marine Safety Manual, p. 4-5.

OSC can ask for activation of the RRT if there is a need of regional coordination and support during an incident. Furthermore, in case an incident is beyond the RRT's scope, it can request NRT's assistance to deal with the incident²¹³.

Area Contingency Plan and Area Committee

OPA 90 requires the designation the areas for which Area Committees (AC) are established and preparation of Area Contingency Plan (ACP) for each AC ensuring all navigable waters, adjoining shorelines, and waters of the exclusive economic zone are subject to an Area Contingency Plan²¹⁴.

Federal Register Notice (FR57 15001) of 24 April 1992, further designated the coastal zone areas for which the USCG has AC responsibility. Since that time, various areas have been subdivided or consolidated as noted in subsequent the federal register notices. Each coastal the Captain of the Port zone is designated as an Area where an AC must be established. Areas may be further divided or consolidated upon approval of the District Commander, to address significant local requirements or concerns. If an Area is subdivided, each designated Area will have a separate AC and ACP. The Environmental Protection Agency is responsible for inland ACP development²¹⁵.

ACP as defined by the CWA²¹⁶ means the plan prepared by the AC that is developed to be implemented in conjunction with the NCP and RCP to address removal of incidents ranging from a most probable to a worst case discharge²¹⁷. ACPs include the following information²¹⁸:

- A description of the area covered by the plan, including the areas of special economic or environmental importance that might be damaged by a discharge;
- Detailed description of the responsibilities of an owner or operator and of federal, State, and local agencies in removing a discharge, and in mitigating or preventing a substantial threat of a discharge;

²¹³ 40 CFR 300 §300.320, General Pattern of Response.

²¹⁴ OPA 1990 section 4202 (b).

²¹⁵ USCG Marine Safety Manual, p. 4-7.

²¹⁶ Federal Water Pollution Control Act, section 311 (a) (19) and (j) (4).

²¹⁷ 40 CFR 300 §300.5, Definitions.

²¹⁸ 40 CFR 300 §300.210, Federal Contingency Plans (c).

- A list of equipment (firefighting, dispersant, mitigation substances and devices), and personnel available to an owner or operator and federal, State, and local agencies;
- Procedures to be followed for obtaining an expedited decision regarding the use of dispersants;
- Detailed description of how the plan is integrated into other plans; and
- A detailed annex containing a Fish and Wildlife and Sensitive Environments Plan for effective protection, rescue and rehabilitation of fish and wildlife resources and habitat.

ACs consists of members from qualified personnel of federal, State and local agencies with responsibilities that include preparing an area contingency plan for a designated area²¹⁹. ACs identify Local Emergency Planning Committees (LEPCs) and State Emergency Response Commissions and other key stakeholders in the area to participate in the planning process. The predesignated OSC chairs the AC and direct and coordinate the ACs efforts. ACs are strongly encouraged to solicit advice, guidance and expertise from all appropriate sources, and establish subcommittees as needed to assist with the preparedness and planning responsibilities. The subcommittee participants may include such individuals as facility and vessel owners/operators, cleanup contractors, emergency response officials, marine pilots, local chemical manufacturers, etc²²⁰.

Vessel Response Plans and Facility Response Plans

The OPA 90 amended the CWA²²¹ to require the preparation and submission of oil spill response plans for responding to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge of oil or a hazardous substance by the owner or operator of tank vessels²²², offshore facilities and certain onshore facilities²²³ to the relevant

²¹⁹ 40 CFR 300 §300.5, Definitions.

²²⁰ 40 CFR 300 §300.210, Federal Contingency Plans (b).

²²¹ OPA Section 4202, amending Section 311(j)(5)(A).

²²² Tank vessels requiring a VRP are vessels that are constructed or adapted to carry, or that carry, oil in bulk as cargo or oil cargo residue and includes vessels of the United States, vessels operating on the navigable waters of the United States or transferring oil in a port or place subject to the jurisdiction of the United States. There are also some exceptions, such as public vessels, vessels constructed to carry oil in bulk but not carrying or storing oil, dedicated response vessels when conducting response operations, etc. (33 CFR 155.1015).

federal agency. Vessels and facilities are prohibited from handling, storing or transporting oil if they do not have a plan approved by the appropriate agency²²⁴.

The Plans must²²⁵:

- Be consistent with the requirements of the NCP and ACPs;
- Identify the qualified individual having full authority to implement removal actions;
- Require immediate communications between that individual and the appropriate federal official;
- Identify and ensure the availability of, by contract or other approved means, private personnel and equipment necessary to remove and to mitigate or prevent the discharge;
- Describe the training, equipment testing, periodic unannounced drills and response actions of persons on the vessel to be carried out under the plan to mitigate or prevent a substantial threat of a discharge; and
- Be updated periodically and resubmitted for approval of significant changes.

While the plans are required to be prepared to identify how the owner or operator of a vessel or facility would respond to a worst case scenario spill, this did not intend for every vessel to have onboard all the personnel and equipment needed to respond to a worst case spill, but plans have to call upon typically through a contractual relationship the necessary equipment and personnel for responding to a worst case spill (Ramseur, 2007).

In most cases, the vessel owner or operator makes a contract with a commercial firm which specializes in oil cleanup. These commercial firms called Oil Spill Removal Organizations (OSRO) must be able to mobilize and deploy equipment and trained personnel and remove, store and transfer recovered oil. OSROs are classified according to their daily response capability and the area where they operate (Table 8).

²²³ Plan requirement is applicable only to an onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or the exclusive economic zone. Federal Water Pollution Control Act, Section 311 (j)(5)(B)(iii).

²²⁴ OPA Section 4202, amending Section 311(j)(5)(E)

²²⁵ *Ibid.*, (5)(C)

Coast Guard and Maritime Transportation Act of 2004 amended to the OPA 90 requiring non-tank vessels (i.e., ships carrying oil for their own fuel use) over 400 gross tons to prepare and submit a vessel response plan²²⁶. Congress reasoned that many non-tank vessels have as much oil onboard as small tank vessels, thus presenting a comparable risk from an oil spill (Ramseur, 2007).

Table 8: Oil Spill Removal Organization Classification

OSRO Class	Environment				
	River and Canal		Inland	Great Lakes	Oceans
A	Barrels Per Day	50	50	50	50
B		1,250	1,250	1,250	1,250
C		1,500	10,000	5,000	10,000
D		3,000	20,000	10,000	20,000
E		6,000	40,000	20,000	40,000

Source: USCG Marine Safety Manual, p 4-32.

Exercises and Drills

OPA 90 and response plan regulations require periodic exercises to ensure that response plans required by industry and ACPs will be well executed during an actual oil spill. To fulfill this requirement, the Preparedness for Response Exercise Program (PREP) was developed (USCG Marine Safety Manual). PREP is a framework utilized by the Government and industry for testing contingency plans of the National Response System. Industry use of PREP is voluntary, but encouraged. Under PREP, plans are regularly tested through notification, tabletop, equipment deployment, and Government-initiated unannounced exercises. The routine testing of plans, relationships, and notifications ensures preparedness to respond²²⁷.

²²⁶ Coast Guard and Maritime Transportation Act of 2004, P.L. 108-293), 33 U.S.C 1321.

²²⁷ USCG official web site, Prep Drills, [<http://www.uscg.mil/d1/response/repindex.htm>], 8 September 2008.

Briefly, it can be noted that OPA 90 requires three levels of separate but complementary contingency planning supported with the facility response plans and vessels response plans to be prepared for all types and sizes of the oil spills. Contingency plans are very well defined and the authorities and the responsibilities are clearly identified to provide a sound implementation of the response activities during an incident. Furthermore, the requirement of periodic and different type of exercises is also very important to test the contingency plans and keep ready the response personnel and equipment for a potential oil spill.

3.1.2.6. Response

The national response system (NRS) is the mechanism for coordinating response actions by all levels of Government in support of the OSC²²⁸. The NRS is composed of the National Response Team (NRT), Regional Response Teams (RRTs), On-scene coordinator (OSC), Area Committees, and Special Teams²²⁹ and related support entities which are going to take part during the response according to the size and type of the discharge and which is going to be activated or be advised to be activated by the OSC. The NRS functions as an incident command system²³⁰ (ICS) under the direction of the OSC. Typical of an ICS, the NRS is capable of

²²⁸ The OSC coordinates and directs response efforts and coordinates all other efforts at the scene of a discharge or release. As part of the planning and preparedness for response, OSCs shall be predesignated by the regional or district head of the lead agency. EPA and the USCG shall predesignate OSCs for all areas in each region (40 CFR 300 § 300.5 Definitions).

²²⁹ *The National Strike Force (NSF) is a special team established by the USCG to assist the OSC in their preparedness and response duties.

* The Environmental Response Team (ERT) is established by the EPA in accordance with its disaster and emergency responsibilities. The ERT has expertise in treatment technology, biology, chemistry, hydrology, geology, and engineering.

* Scientific Support Coordinators (SSCs) may be designated by the OSC as the principal advisors for scientific issues, communication with the scientific community, and coordination of requests for assistance from State and federal agencies regarding scientific studies.

* United States Navy Supervisor of Salvage (SUPSALV) has an extensive salvage/search and recovery equipment inventory with the requisite knowledge and expertise to support these operations, including specialized salvage, firefighting, and petroleum, oil and lubricants offloading capability.

*Radiological Emergency Response Teams (RERTs) have been established by EPA's Office of Radiation Programs (ORP) to provide response and support for incidents or sites containing radiological hazards.

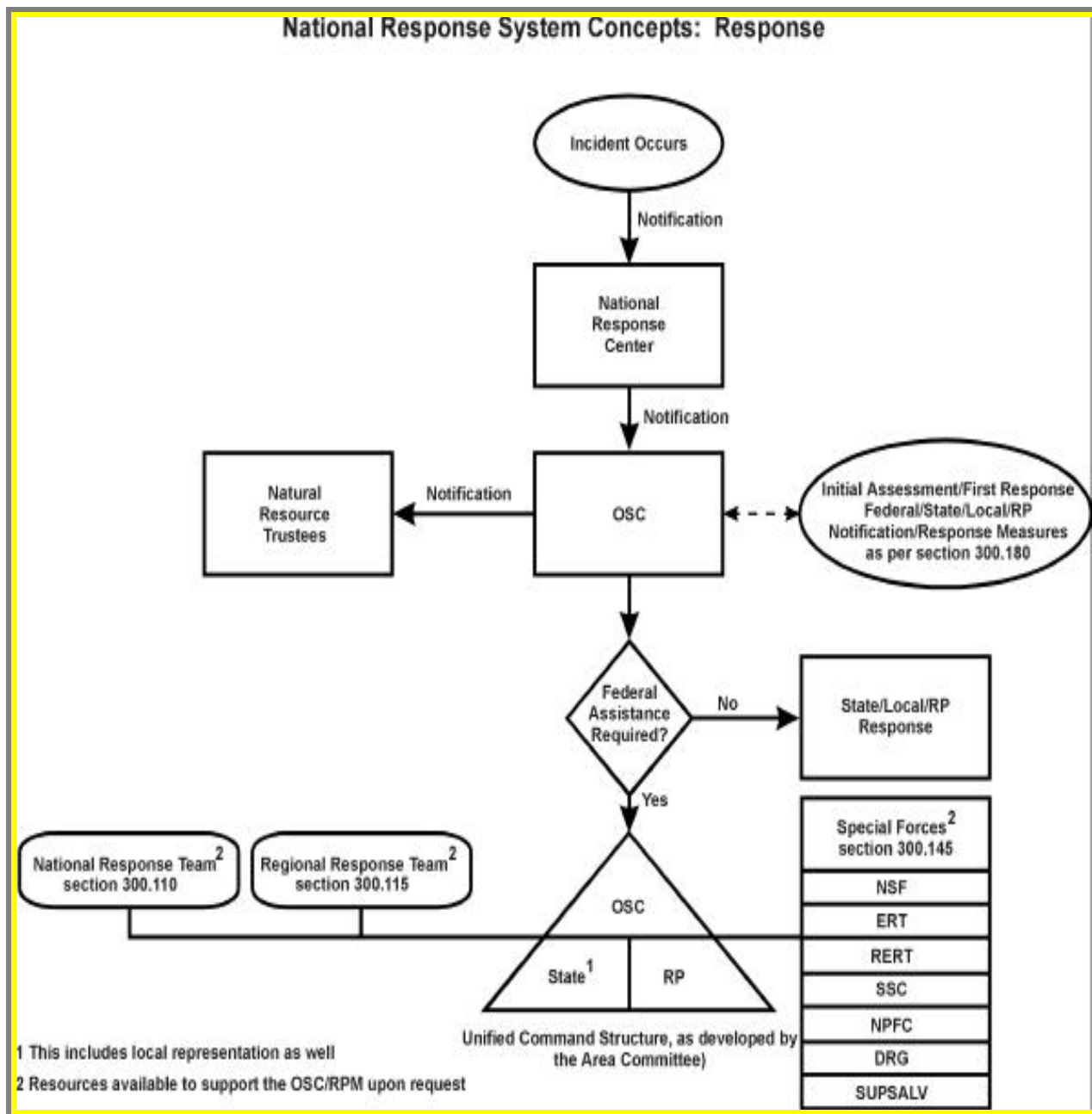
*District Response Group (DRG) assist the OSC by providing technical assistance, personnel, and equipment, including pre-positioned equipment.

*The National Pollution Finance Center (NPFC) The NPFC is responsible for addressing funding issues arising from discharges and threats of discharges of oil.

²³⁰ The Incident Command System (ICS) is a standardized response management system that is part of the National Interagency Incident Management System. The ICS is organizationally flexible so that it can expand and contract to

expanding or contracting to accommodate the response effort required by the size or complexity of the discharge. The organizational concepts of the national response system are depicted below in Figure 11:

Figure 11. National Response System Flow Diagram



Source: 40 CFR 300 §300.105 General Organization Concepts

accommodate spill responses of various sizes. The ICS typically consists of four sections: operations, planning, logistics and finance/administration (GAO, 2007a).

During a response, actions are taken in the following sequence in the scope of organizational concepts of the national response system:

A discharge of oil may be discovered through many different ways: A report submitted by the person in charge of a vessel or facility, in accordance with statutory requirements, deliberate search by patrols, random or incidental observations by Government agencies, the public or other sources. Any person in charge of a vessel or a facility or any other person shall notify the NRC as soon as possible. If direct reporting to the NRC is not practicable, reports may be made to the USCG or EPA predesignated OSC for the geographic area where the discharge occurs. The EPA predesignated OSC may also be contacted through the regional 24-hour emergency response telephone number. When NRC receive a notification of discharge, it promptly notifies to the OSC, and the OSC ensures notification of the appropriate State agency of any State which is or may be affected by the discharge²³¹.

Upon receiving a notification of discharge or a report of a discharge, the OSC is responsible for the prompt initiation of a preliminary assessment evaluating the magnitude and severity of the discharge, the threat posed to public health or welfare or the environment. He/she officially classifies the size (i.e. minor, medium, major) and type (i.e. substantial threat to the public health or welfare, worst case discharge) of the discharge and determines the course of action to be followed to ensure the effective and immediate removal, mitigation or prevention of the discharge. When the reported discharge is an actual or potential major discharge, the OSC shall immediately notify the RRT. When the investigation shows that an actual or potential medium discharge exists, the OSC shall recommend activation of the RRT, if appropriate. If the investigation shows that an actual or potential minor discharge exists, the OSC shall monitor the situation to ensure that proper removal action is being taken. In this situation, the OSC may allow the responsible party to voluntarily and promptly perform removal actions if the OSC determines such actions will ensure an effective and immediate removal of the discharge. If effective actions are not being taken to eliminate the threat or if removal is not being properly done, OSC shall take appropriate response actions. Furthermore, the OSC determines whether a State or political subdivision has the capability to carry out any or all removal actions, if so

²³¹ 40 CFR 300 § 300.300 Phase I-Discovery and Notification.

he/she may only arrange funding to support these actions. The OSC ensures prompt notification of the trustees²³² of affected natural resources in accordance with the applicable RCP and ACP. The OSC decides to complete the removal activities in consultation with the Governor or Governors of the affected States²³³. Oil and contaminated materials recovered in cleanup operations are disposed of in accordance with the method and procedures identified in the RCP and the ACP, and any applicable laws and regulations²³⁴.

When a discharge moves from the area of one ACP or RCP into another area, the response authorities change accordingly. If an incident occurs affecting two or more ACPs or RCPs areas, each applicable contingency plans is activated and implemented with coordination as detailed in the relevant contingency plans. In such a case, the EPA, the USCG, DOD, DOE, or other lead agency determine which agency will provide the OSC by giving prime consideration to the area vulnerable to the greatest threat²³⁵.

3.1.2.7. Compensation and Liability

The first title of the OPA 90, Oil Pollution Liability and Compensation, establishes oil spill liability and compensation requirements. The primary objectives of the OPA 90 Title I are to “ensure adequate funds to provide expeditious federal response to the oil spills”, “ensure paying damages by oil spills” and “establish a liability and compensation regime that will serve as a deterrent to potential responsible parties”.

OPA 90 also established the Oil Spill Liability Trust Fund (OSLTF) to ensure adequate funds for expeditious response and to ensure paying damages resulting from oil spills are compensated. This was critical as “prior to OPA 90, federal funding for oil spill response was generally considered inadequate, and damage recovery was difficult for private parties” (Ramseur, 2007). OSLTF was established by Congress in 1986. However, OPA 90 provided the statutory authorization to the fund and transferred the other federal liability funds supporting

²³² Trustee means an official of a federal natural resources management agency designated in subpart G of the NCP or a designated State official or Indian tribe or, in the case of ...

²³³ 40 CFR 300 Appendix E – Oil Spill Response.

²³⁴ Resource Conservation and Recovery Act, Toxic Substances Control Act.

²³⁵ 40 CFR 300 Appendix E – Oil Spill Response, 5.3.7 Multi Regional Responses.

certain federal oil pollution laws, such as the CWA, Deepwater Port Act, Trans-Alaska Pipeline System Authorization Act, and the Outer Continental Shelf Lands Act, into the OSLTF. The sources of income of the OSLTF include a barrel tax taken from the oil industry, transfers from existing pollution funds (there is now no additional funds to be transferred), interest on the fund, cost recoveries and penalties (USCG, 2008a). Barrel tax taken from the oil industry ceased on 31 December 1994 according to a sunset provision of OPA 90. The barrel tax was started again in April 2006 and the ceiling for when the tax would temporarily expire raised from \$1 billion to \$2.7 billion according to requirements of the Energy Policy Act of 2005²³⁶. This Act again includes a sunset provision ending application of the OSLTF financing rate on 31 December 2014. Furthermore, administration of the OSLTF was delegated to the National Pollution Funds Center (NPFC) of the USCG.

OSLTF can be used firstly for response and removal costs of an oil spill and it is employable for on-scene coordinators, 24 hours a day, to immediately respond to a spill or the threat of a spill. Secondly, if a responsible party does not pay (e.g. due to bankruptcy, commercial failure, exceeding the limit of liability) or is not known, claimants may ask for disbursement from the NPFC. In this scope, uncompensated removal costs, natural resources damages, damages on private property, loss of profit, loss of Governmental revenue and cost for increased public services can be paid to the claimants from the OSLTF within some limits (USCG, 2008b). These limits have been identified in OPA 90 Section 9001, and the maximum amount that may be paid for any single incident shall not exceed \$1 billion and natural damage claims in connection with any single incident shall not exceed \$500 million²³⁷.

OPA 90 Section 1002 States that responsible parties are liable for any discharge of oil or threat of discharge from vessels or facilities to navigable waters, adjoining shorelines or the exclusive economic zone of the US²³⁸ and OPA 90 sets liability limits (Table 9) for cleanup costs and other damages except incidents caused by gross negligence or willful misconduct of responsible party, or the violation of an applicable Federal safety, construction or operating

²³⁶ 42 U.S.C 15801.

²³⁷ 26 U.S.C. 9509.

²³⁸ 33.U.S.C.2702.

regulation by the responsible party²³⁹. According to the OPA 90, the President shall adjust the limits of liability to reflect significant increases in the Consumer Price Index by regulations issued not less often than every 3 years²⁴⁰. However, this adjustment was not made until the Coast Guard and Maritime Transportation Act of 2006 through which the liability limits were increased and some separation according to the tank vessel types²⁴¹ were introduced (Table 9).

OPA 90 also requires that vessels maintain evidence of financial responsibility (e.g. insurance) to meet the amount of the liability and NPFC carries out this mandate by issuing Certificates of Financial Responsibility (COFR) to shipping vessel owners when owners demonstrate the ability to pay for oil spill cleanup and damages. Vessels must provide evidence of financial responsibility up to the maximum applicable liability amount²⁴².

Table 9: Comparison of Liability Limits between OPA 90 and Coast Guard and Maritime Transportation Act

		Limits of Liability	
Vessel Type		1990	The Coast Guard and Maritime Transportation Act of 2006
Tank Vessels	Single Hull	<ul style="list-style-type: none"> • Vessels greater than 3000 gross tons; the greater of \$1200 per gross ton or \$10 million. • Vessels less than or equal to 3,000 tons; the greater of \$1200 per gross ton or \$2 million 	<ul style="list-style-type: none"> • Vessels greater than 3000 gross tons; the greater of \$3000 per gross ton or \$22 million. • Vessels less than or equal to 3,000 tons; the greater of \$3000 per gross ton or \$6 million
	Double Hull		<ul style="list-style-type: none"> • Vessels greater than 3000 gross tons; the greater of \$1900 per gross ton or \$16 million. • Vessels less than or equal to 3,000 tons; the greater of \$1900 per gross ton or \$4 million
Any Other Vessels		<ul style="list-style-type: none"> • The greater of \$600 per gross ton or \$500,000 	<ul style="list-style-type: none"> • The greater of \$950 per gross ton or \$800,000

Source: Prepared by the Author according to the related provisions of OPA 90 and Coast Guard Maritime Transportation Act of 2006

It can be noted that OPA 90 unified the liability provisions of existing oil spill laws creating a freestanding liability regime. Through the enactment of OSLTF, it was made possible

²³⁹ 33 U.S.C.2704.

²⁴⁰ *Ibid.*

²⁴¹ 14 U.S.C.1.

²⁴² 33 U.S.C.2717.

to respond to oil spills in a prompt way and reimburse claims if the responsible party does not pay or is not known. That is a very important compensation mechanism considering about 40% of spills in US waters are “mystery” spills (Ramseur, 2008). Furthermore, OPA 90 established higher limits for oil spills and broadened the scope of damages for which polluters are liable. After the enactment of OPA 90 regime, and also with the influence of the higher and broadened liability limits, it is clear that the number and volume of oil spills from tank vessels in US waters have fallen considerably (BURNS, 2002; KIM, 2002).

However, there are some critics with respect to the shortcomings of the liability limits and their implementation. According to a GAO report, three areas in which further attention to these liability limits appears warranted:

the appropriateness of some current liability limits (some recent adjustments to liability limits do not reflect the costs of major spills), the need to adjust limits periodically in the future to account for significant increases in inflation (liability limits have not been adjusted for inflation) , and the need for updated regulations for ensuring vessel owners and operators are able to financially cover their new limits (certification of compliance with the new liability limits is not in place) (GAO, 2007).

Besides, there are some other concerns on the viability of the OSLTF especially related with a potential major oil spill. For instance, the *Exxon Valdez* oil spill caused approximately \$2 billion in cleanup costs and \$1 billion in natural resource damages and under the new limits responsible party has to pay only \$285 million (single-hull) or \$181 million (double hull) (Ramseur, 2007).

3.1.3. Effectiveness of Implementation

Before making an effectiveness analysis of OPA 90 and its implementation, it is very important to define the pre-OPA 90 situation: “Before the OPA 90 when responding to a spill, many considered the lines of responsibility to be unclear” (Swanson, 2001) and “the law relating to oil spills affecting the waterways of the United States was in disarray” (Ramseur, 2007). It can be surmised that OPA 90 unified the Federal system by clarifying the Federal Government’s role

and created a regime in which new requirements in a series of different areas. OPA 90 established a freestanding liability regime and increased the limits²⁴³ of liability and the scope of recoverable damages, created new requirements regarding vessel construction, crew manning and licensing, contingency planning, enhanced response capabilities and increased penalties (Vanem, 2007; Kim, 2003). Briefly, it must be accepted that enactment of OPA 90 is a very important step forward intending to prevent the oil spills and mitigate its effects. Even if the effectiveness adequacy of OPA 90 can be debated, it is certain that it has improved the oil spill prevention, preparedness and response policy of the United States comparing to the pre-OPA 90 situation.

It is clear that prevention of the oil spills is the best way to protect the environment. Although US oil consumption and import has been steadily rising causing increased oil transportation, when we look at the oil spill trends, it can be clearly said that the number of oil spills and volume of oil spilled have declined in general, especially after the implementation of OPA 90. Considering this situation, and assuming that oil spills would be substantially higher than today without OPA 90, it would not be wrong to hypothesis that OPA 90 successfully served to prevent oil spills (Homan, 2007; Kim, 2002). This is a strong argument to uphold the effectiveness, or at least the positive impact of the OPA 90 oil spill prevention measures such as increased liability, improved audit and inspection, and double hull requirements. Furthermore, it is very important to emphasize that compared to the international regime, OPA 90 provides higher liability limits and a fund scheme with a higher maximum amount of compensation. The international regime is designed for limited liability²⁴⁴, but OP 90 imposes unlimited liability on the response party in the case of gross negligence or willful misconduct and violation of the Federal legislations (Faure and Hui, 2003). Furthermore, OPA 90's provisions go far beyond the international regime, which has an ambiguous definition and scope of recoverable damages, in respect of recoverable damages, especially natural resources damages (Kim, 2003).

²⁴³ In some cases like gross negligence or willful misconduct OPA 90 imposes unlimited liability.

²⁴⁴ According to the international regime only if it is proved that the pollution damage resulted from ship-owners personnel act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result, the ship-owner is not entitled to limit his liability (CLC 92, Article V (II)).

Although when looking at the general literature and evaluations of the OPA 90, there are also some critics.

There are some critics related with the shortcomings of the liability limits concerning whether the current liability limits are sufficient to support the fundamental polluter pays principle to OPA 90 and the risk is properly divided between the responsible party and the OSLTF (Hearing, 2006). GAO reports that despite some recent adjustments, some current liability limits do not appropriately reflect the costs of the spills. For example, especially oil spills originating from the tank barges and non tank vessels exceed the liability limits resulting in a burden on the OSLTF. Taking into consideration the number of vessel accidents with oil spills caused by tank barges and non-oil-cargo vessels is greater than the spillage from tankers, the need to take some steps is obvious (Talley, 2001). Furthermore, and maybe the most important problem with the liability and compensation system of the OPA 90, are concerns regarding the viability of the OSLTF especially related with a potential major oil spill like *Exxon Valdez*. For instance, the *Exxon Valdez* oil spill caused approximately \$2 billion in cleanup costs and \$1 billion in natural resource damages and under the new liability limits the responsible party has to pay only \$285 million (single-hull) or \$181 million (double hull) (Hearing, 2006 ;Ramseur, 2007). Although the maximum amount that may be paid by OSLTF for any single incident can not exceed \$1 billion, given that the OSLTF had approximately \$604 million at the end of the FY2006 and the Fund projects to have more than \$1 billion by the end of the 2008 (Ramseur, 2008), it is clear that an major oil spill can easily deplete the Fund.

Although the number of oil spills has substantially decreased since the enactment of the OPA 90, some relatively big oil spills still occur. Along with the effect of these spills, increasing amount of marine transportation induced some States to take some more stringent measures to prevent the oil spills. For example, the State of Washington established some State standards to provide the best achievable protection from damages caused by the discharge of oil in State waters and then promulgated the tanker design, equipment, navigation, manning, reporting and operating requirements. The International Association of Independent Tanker Owners (Intertanko) brought suit-seeking relief from these regulations and the Supreme Court preempted

these regulations according to the laws concerning national and international uniformity of marine transportation (*US v Locke*²⁴⁵; Swanson, 2001).

In response to an oil spill caused by a barge which collided with an outcropping of rocks releasing thousands of gallons of industrial fuel oil in Buzzard Bay impacting nearly 100 miles of shoreline and more than 400 birds, the State of Massachusetts amended existing laws and regulations to increase the safety of commercial barges traveling in State waters (Oil Spill Intelligence Report, 2004). The court again held that all of the provisions were preempted by Federal laws (*US v. Massachusetts*²⁴⁶). Meanwhile, these efforts to improve the current situation to prevent potential oil spills can be evaluated as some gaps or insufficiency of the OPA 90.

Another issue is the inadequate responders at all levels of Government and response companies having large response operations experience as a result of the overall reduction in large oil spills in recent years (ISPR, 2008; GAO, 2007). Declining amounts of oil spills results in response companies no longer affording to specialize in cleaning-up alone and their effectiveness and levels of expertise diminish over time (GAO, 2007). Thus, the reflection of this situation can be seen in some of the recent oil spills as inconsistency with response plans, delays in gathering and deploying, communication problems, etc²⁴⁷. (ISPR, 2008). Despite the fact that oil spill occurrence frequency decreases, a certain amount of spills are inevitable under any legislation. In this respect, proper implementation of the preparedness and response stages of the oil spill policy is inevitable and it is clear that there are some problems.

There are also some concerns and criticisms that OPA 90 makes transporting oil into the United States more expensive compared to other countries (Swanson, 2001). This can be

²⁴⁵ *US v. Locke, International Association of Independent Tanker Owners (Intertanko) v. Locke*, 148 F.3d 1053 (Wash. 1998).

²⁴⁶ *US v. Massachusetts*, 440 F. Supp. 2d 24 (D. Mass. 2006).

²⁴⁷ Look at these web pages to see some oil spill incidents and their response effectiveness;

- International Bird Rescue Research Center, Good Suggestions in Final Cosco Busan Spill Report, [<http://intbirdrescue.blogspot.com/2008/05/good-suggestions-in-final-cosco-busan.html>], 14 October 2008.

- New York Times, Oil Spill Spreads in San Francisco Bay, [<http://www.nytimes.com/2007/11/10/us/10spill.html>], 15 October 2008.

- Current Events, The high cost of oil: huge spill leaves seabirds dead and dying in San Francisco Bay, [http://findarticles.com/p/articles/mi_m0EPF/is_11_107/ai_n24317211], 15 October 2008.

accepted to some degree when considering the United States' higher limits of liability and more extensive scope of the recoverable damages compared to other countries, the double hull requirement and some other measures which may cause some amount of economic difference. However, this situation should be evaluated not only through a cost perspective, but also environmental benefits must be considered. Double hull requirements have the highest compliance and enforcement cost on the oil industry (US Department of Transportation, 2001), but double hull is now the industry standard and nearly all ships in the world maritime oil transportation fleet are expected to have double hulls by about 2020 (National Research Council, 1998). According to Programmatic Regulatory Assessment Report (PRA), even if the financial responsibility requirement has one of the most expensive compliance and enforcement cost, it has also very distinctive benefits in the prevention of oil spills. This report also estimates overall and individual benefits of a core group of 11 rules representing the OPA 90 (such as double hull, financial responsibility, vessel response plans etc.) and makes projection of 67 percent reduction in total oil spillage from 1996-2025 with implementation of these 11 rules

As a result, it can be said that OPA 90 has established a freestanding oil spill prevention, preparedness and response framework with new requirements and implementation of OPA 90 resulted in an important decline in oil spills. It is clear that the United States system is more effective to protect the environment compared to the international system. However, the effect of increasing marine transportation traffic and some oil spills revealed the necessity of some revisions or improvements of the post-OPA 90 system. Although this can be debated, it is perhaps not enough, system has reacted to these demands with some improvements such as increasing liability limits, resumption of barrel-tax obligations for the financing of OSLTF and requirements for vessel response plans for some non-tank vessels. Evaluating adequacy of these reactions, it is important to take into consideration that most of the important ameliorations are done after a disastrous oil spill, and that the United States has not yet experienced any big oil spill after *Exxon Valdez*. Unfortunately, systems need to be tested with time and of course oil spills to convince people to accept some additional cost to reduce the risk of oil spills with some extra requirements.

3.2. Comparative Assessment: Recommendations and Lessons Learned

In this part, we will make a comparative assessment of the US and Turkey oil spill response policies' main components to understand the similarities and differences and to draw some conclusions in the form of lessons learned so as to make some contributions to the implementation of Turkey's oil spill response policy.

In this context, the main influence on US policy, which resulted in an important policy change, is the *Exxon Valdez* tanker accident. This accident and its catastrophic results on the marine environment caused a significant amount of public reaction and revealed the insufficient regulatory framework of the US to respond and prevent oil spills, and so US Congress enacted the OPA 90. However, the enactment of the OSRL 2005 is not directly related with a single tanker accident. Instead of this, international commitments, very insufficient regulatory framework and potential oil spills are the main factors which motivated the enactment of the OSRL 2005. Both of the OPA 90 and OSRL 2005 have made significant contributions to protect the marine environment from oil pollution. Although the US had waited until experiencing an catastrophic oil spill to take some measures to improve the actual system, the expansive measures which go beyond the international system taken in the wake of the *Exxon Valdez* proved the environmental sensibility of the US. However, the economic power of the US should be taken into account as a facilitating factor in the implementation of these measures. Before OPA 90, there was already a legislative framework dealing with oil spills, OPA 90 and its requirements unified the old system and provided a comprehensive and improved legislative framework.

OSRL 2005 also provided a regulatory framework related with oil spills, however, the difference is that Turkey did not have a regulatory framework exclusively dealing with the oil spills before OSRL 2005. Turkey is at the very beginning of the implementation of OSRL 2005 and the implementation period will reveal the adequacy of this framework.

The US has a very well defined preparedness and response system with the contingency planning requirements having the ability to provide the national response capabilities according

to the size and type of the oil spills. OSRL 2005 is also based on the same preparedness and response principles requiring contingency planning. Meanwhile, completion of the contingency planning, which is now under preparation, will clarify the final situation in this respect.

The US compensation and liability requirements are more effective to recover the costs of the environmental damages as compared to the requirements of the international conventions with its higher liability limits and fund scheme. Turkey is a signatory of the liability and compensation conventions and therefore is part of the international regime. However, the scope of the recoverable environmental damages in the US is more environmental friendly as compared to the international regime.

It is clear that the number and the volume of the oil spilled in the marine environment have significantly decreased with the implementation of the OPA 90 requirements. Although there are some critics of the OPA 90 regime, who propose arguments related to insufficient liability limits, viability of the OSLTF and inadequacy of the response activities and some demands for more stringent measures to prevent the oil spills, it can be said that OPA 90 requirements and their implementation has successfully served considering the declining trend of oil spills. Turkey is now at the very beginning of the implementation period and faced with many challenges in respect to implementation and enforcement.

OPA 90 requires more stringent and first applied prevention measures such as double hull requirement as compared to the international oil spill prevention measures. OSRL does not require any direct prevention measures. Turkish oil spill prevention policy is shaped by the international system. However, Turkey does not have a good implementation record with limited flag State control and port State control.

Expensive oil transportation into the US compared to the other countries can be seen a handicap for the implementation of the OPA 90 without taking into consideration the environmental benefits. The most important handicap that will prevent the efficiency of the implementation of the OSRL is the limited intervention right of Turkey vessels transiting through the Turkish Straits due to Montreux Convention.

Table 10: US and Turkey Oil Spill Policy Comparative Assessment

	US	Comments	Turkey	Comments
Influences	<ul style="list-style-type: none"> ➤ Exxon Valdez tanker accident - Environmental concerns - Insufficient regulatory framework 	<ul style="list-style-type: none"> ➤ It is a very good example to take the environment first ➤ Economic power and ability to make some changes on oil industry 	<ul style="list-style-type: none"> ➤ International commitments ➤ Very insufficient regulatory framework ➤ Oil spill experiences and potential oil spills ➤ EU accession process 	<ul style="list-style-type: none"> ➤ It is a very big progress to protect the environment ➤ It is an important contribution to the integration of Turkey into the EU in respect of marine oil pollution
Legislative Framework	<ul style="list-style-type: none"> ➤ OPA 90 	<ul style="list-style-type: none"> ➤ Unified the old system and provided a comprehensive legislative framework ➤ Prevention measures 	<ul style="list-style-type: none"> ➤ OSRL 2005 	<ul style="list-style-type: none"> ➤ Provided a regulatory framework exclusively dealing with oil spills ➤ Relatively comprehensive ➤ No prevention measures
Prevention	<ul style="list-style-type: none"> ➤ International and domestic measures 	<ul style="list-style-type: none"> ➤ Additional prevention measures compared to international measures such as double hull requirement 	<ul style="list-style-type: none"> ➤ International 	<ul style="list-style-type: none"> ➤ Bad picture of flag State control and port State control ➤ Danger to become a port region for low standard vessels
Preparedness and Response	<ul style="list-style-type: none"> ➤ Well defined, adaptable to the size and type of the spills 	-	<ul style="list-style-type: none"> ➤ Well defined, adaptable to the size and type of the spills 	<ul style="list-style-type: none"> ➤ Termination of then contingency plans will clarify this situation
Liability and Compensation	<ul style="list-style-type: none"> ➤ Unified liability regime ➤ High liability limits and fund scheme with a higher maximum amount of compensation compared to the international system ➤ High scope of recoverable damages ➤ Option of imposing unlimited liability 	<ul style="list-style-type: none"> ➤ More effective to prevent oil spills and to protect the environment 	<ul style="list-style-type: none"> ➤ International system ➤ Increased scope of damages (e.g. reinstatement of degenerated environment - not limited with reasonable measures of reinstatement) 	<ul style="list-style-type: none"> ➤ More effective to protect natural resources

Implementation	<ul style="list-style-type: none"> ➤ Insufficiency of liability limits ➤ Viability of OSLTF ➤ Demands for more stringent measures ➤ Inadequate responders at all levels of government and response companies 	<ul style="list-style-type: none"> ➤ Need to have feedbacks to update the policy 	<ul style="list-style-type: none"> ➤ No direct implementation yet 	<ul style="list-style-type: none"> ➤ Need many efforts to implement and enforce the regulatory framework (guidelines on response activities, response equipment, training, trained personnel, adequate staff, drills etc.)
Handicaps	<ul style="list-style-type: none"> ➤ Expensive oil transportation 	<ul style="list-style-type: none"> ➤ Relatively expensive taking into consideration to the environmental benefits 	<ul style="list-style-type: none"> ➤ Turkish Straits/Montreux Convention and limited intervention right on vessels transiting 	<ul style="list-style-type: none"> ➤ Find some international solutions before a disastrous accident occurs in the straits

Source: Prepared by the Author.

After analyzing the US oil spill policy and its implementation, the lessons learned described below are identified so as to make a contribution to the implementation of the OSRL:

Lesson Learned 1: *“Major oil spills are the trigger for the improvement of oil spill response policies”*

The main factor inducing the formulation of a new oil spill policy in the US was the *Exxon Valdez* tanker accident. This oil spill revealed the insufficiency of the old system to provide adequate cleanup and damage remedies. The oil spilled in the marine and coastal environment after this incident raised public concern remembering the detrimental effects of the oil pollution. Certainly, the best way to deal with the oil spills is to take precautionary measures without experiencing any harmful consequences of oil pollution. However, a break point is generally needed so as to clearly prove the need for some changes and to reach a compromise among the different stakeholders and interests such as oil industry, economical concerns, environmental concerns. Turkey’s enactment of OSRL without waiting an environmental catastrophe, thus taking some precautionary measures as a result of being aware of the insufficient oil spill response policy and the damage the country can suffer because of this situation is a very important step. After this point, it is very important to implement this new

regime through the necessary amendments, improvements and changes to its oil spill response policy, and adapt it along the way according to experiences obtained from the implementation and required by the changing conditions; this without waiting to experience a major spill. Furthermore, the lessons learned from the oil spills which have occurred should be enough to take necessary measures before any other new bad experiences.

Lesson Learned 2: *“Importance of having oil spill response policy to deal with marine pollution: comprehensive legal framework, good implementation and enforcement”*

After enactment of OPA 90, the number of oil spills and amount of oil spilled decreased substantially along the US coastlines. The main factors that bring about these declines include a comprehensive preparedness, response, compensation and prevention legal framework dealing with oil spills and their effective implementation and enforcement. There is a well-defined legal framework identifying clearly the requirements of contingency planning and organizational structures and authorities and responsibilities. The US preparedness system requires a multi-leveled contingency planning thus provides an adaptable response capability to the size and type of the oil spills. This system enables to effective and adequate use of national, regional and district level abilities to respond to oil spills. Liability and compensation requirements are high enough to induce the oil industry to obey the rules to prevent the oil spills and to recover the damages. Furthermore, additional oil spill prevention measures required by OPA 90, such as double hull requirements, significantly contributed to strengthening the oil spill prevention legal framework. Although there are some problems during the implementation of this legal framework, the implementation and enforcement efforts are enough to result in a declining trend of oil spills. Briefly, it can be said that having an oil spill response policy supported by a comprehensive legal framework and good implementation and enforcement is necessary and critical to address oil spills effectively.

Lesson Learned 3: *“Preparedness and response capacity declines in the course of time due to infrequent major oil spills”*

After the implementation of the OPA 90 requirements, the number of oil spills decreased significantly in the US. Therefore, because of the infrequent oil spills, the number of qualified and experienced oil spill response personnel decreased significantly causing some problems with

the response activities during some of the recent oil spills. These included inconsistency with response plans, delays in gathering and deploying, and communication problems. Given that oil spills, especially major oil spills, generally do not occur frequently, and preparedness and response capacity can decline in the course of time, it is very important to implement periodic drills for testing the response capabilities for all levels of response and to provide training and capacity-building programs for the responders.

Lesson Learned 4: *“US has a more effective system to prevent oil spills and to protect the environment compared to the international regime”*

As compared to the international regime, the US plays the leading role by shaping the international regime and it is more adequate to prevent damages to the environment. Double hull requirements which is one of the most important changes for tank vessel construction, was introduced by the enactment of OPA 90 to prevent oil spills in case of marine accidents. It then became a maritime oil transportation industry standard. The US also have an exclusive compensation and liability system which is different from the framework established by the international conventions. This system is more effective to prevent oil spills and protect the environment due to its higher liability limits and a fund scheme with a higher maximum amount of compensation for damages, extended scope of recoverable natural resources damages and the option of imposing unlimited liability.

Lesson Learned 5: *“It is very important to monitor the system and take necessary feedbacks from the experiences of implementation and stakeholders to make necessary changes and revisions on the requirements of the oil spill response policy”*

The US made many revisions and changes to the oil spill response policy, so as to improve the actual situation with increasing the liability limits, resumption of the barrel-tax obligation for financing OSLTF and new requirements for vessel response plans for some non-tank vessels. However, there are still some critics regarding the adequacy of the actual system, such as the application of low liability limits for some types of vessels and the viability of the OSLTF. Furthermore, because of increasing maritime transportation and some oil spills, some States attempted to take more stringent measures to improve the current situation that were preempted by the Federal Laws.

This section of the paper addressed the manner in which the US has implemented a similar law so as to gain insights into the sound implementation of the Turkish OSRL. After analyzing the US oil spill policy and its implementation, the following points should be taken into account during the implementation of the Turkish oil spill policy:

- The US has a more effective system compared to the international regime to protect the marine environment against to the oil pollution;
- A declining trend of oil spills and their consequent damage to marine environment can be achieved through a comprehensive legal framework dealing with oil spills and its effective implementation and enforcement;
- Preparedness and response capacity declines in the course of time due to infrequent major oil spills;
- The oil spill response policy should be revised and updated according to feedback from implementation experiences and modifying conditions.

4. CONCLUSION

Turkey enacted OSRL as a response to commitments arising from being party to the international system, insufficient legislative framework for oil spills and dealing with the potential oil spills that the country can experience. Turkey's oil spill response policy is now more compatible with the international system. Insufficient regulatory framework to deal with the oil spills replaced by an exclusive law and its promulgated legal documents. OSRL established a well-defined and sufficient preparedness and response framework with interrelated, risk-assessment based and adaptable to the size and level of the oil spill contingency planning. With a sound implementation and enforcement of the actual regulatory framework, it can be expected to respond the potential oil spills more efficiently.

However, there are some deficiencies that have to be clarified for sound implementation of OSRL. The general conditions determined for financial liability insurance of the coastal facilities do not include every recoverable damage described in the OSRL and Tariffs of the financial liability insurance of the coastal facilities have not yet been declared thus preventing the preparation of insurance contracts. The necessary administrative or legal measures to overcome these situations should be taken as soon as possible.

Moreover, the problem of the Turkish Straits is a very big challenge that will prevent obtaining good results with the implementation of the OSRL, if the Turkish Government does not find some international solutions allowing intervention on the vessels passing through the straits. Another issue that has to be handled is the operation of the Port State Control and Flag State Control mechanisms to provide navigational safety of the ships. In this issue, increasing the control levels and good enforcement with adequate inspector and inspection is very important.

After enactment of the OSRL, Turkey as an EU candidate country became more prepared to be a member in respect of oil spill preparedness and response. However, Turkey should benefit from the means provided by the EU Community Civil Protection Mechanism to improve its ability and capacity to be prepared for and response to oil spill. For assessing the conformity of the Turkish maritime safety policy to the EU, it is necessary to make a comparative

assessment to identify the necessary legislative changes and enforcement policy with a careful analysis of their implications. Furthermore, Turkey should sign the Supplementary Fund Protocol both to provide better recovery from oil pollution damages in its environment and to harmonize its legislative framework with the EU.

Given that the Turkey is at the very beginning of the implementation of the OSRL, developing a sound implementation strategy is very important to deal with the oil spills adequately. Turkish policy makers should take into consideration the following points in the development an implementation of the strategy:

- Provision of enough and well qualified personnel;
- Periodic drills for all size and type of the oil spills;
- Well-organized training programs and adequate training materials;
- Making the necessary changes and revisions to the oil spill response policy according to the experiences of implementation and modifying conditions without waiting to experience a major oil spill; and
- Declining trend of the response capacity in the course of time due to infrequent major oil spills.

As a result, it can be said that enactment of the OSRL is a very big step to protect the marine environment of Turkey from accidental oil pollution. However, the success of this law will be determined by sound implementation and enforcement of its requirements.

References

- Akten, N. (2006). Shippin Accidents: a Serious Threat for Marine Environment. J.Black Sea/Mediterranean Environmet Vol 12: 269-304 (2006).
- American Petroleum Institute (API) (2007). Oil Spills in US Waters. Version Date June 2007. [http://www.api.org/ehs/water/spills/upload/OIL_SPILLS_REPORT_LO.pdf], 6 September 2008.
- Bakirci, A.E., Etyemez, M. (2005). Developments on the Turkish Straits' Vessel Traffic System (in Turkish Language). II. Muhendislik Bilimleri Genc Arastirmacilar Kongresi MBGAK 2005, Istanbul 17-19 Kasim 2005. [<http://www.istanbul.edu.tr/mbgak/bildiriler/Denizulastirma/D1-2.pdf>], 15 December 2008.
- Bebek, M. Protection of the Marine Environment and Marine Security (in Turkish Language). Kıyı ve Deniz Güvenliği, T.C. Başbakanlık Denizcilik Müsteşarlığı Yayını. [<http://www.denizce.com/denizguvenlik.asp>], 18 December 2008.
- Blanco-Bazan,A.(2004). IMO-Historical Highlights in the Life of a UN Agency. Journal of the History of International Law 6: 259-283.
- BP, (2008). BP Statistical Review of World Energy June 2008. [http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2008/STAGING/local_assets/downloads/pdf/statistical_review_of_world_energy_full_review_2008.pdf], 28 July 2008.
- Burgherr, P. (2007). In-depth Analysis of Accidental Oil Spills From Tankers in the Context of Global Spill Trends from all Sources. Journal of Hazardous Materials 140 (2007) 245-256.
- Burns, G. Pond, R. Tebeau P. and Etkins, D.S. (2002). Looking to the Future-Setting the Agenda for Oil Spill Prevention, Preparedness and Response in the 21st Century. Spill Science and Technology Bulletin, Vol.7, 1-2, pp. 31-37, 2002.
- Connolly, S. O'Rourke, D. (2003). Just Oil? The Distribution of environmental and Social Impacts of Oil Production and Consumption. Annu. Rev. Environ. Resour. 2003. 28: 587-617.

Current Events (2007). The high cost of oil: huge spill leaves seabirds dead and dying in San Francisco Bay. Issue 11, 26 November 2007.

Denizcilik Mustesarligi (2007). Annual Report of the Shipping Inspection Department (in Turkish Language).[<http://www.denizcilik.gov.tr/tr/istatistik/istatistik.asp>], 17 December 2008.

Devlet Planlama Teskilati (DPT), (2007a). Specialized Commission Report on Oil and Oil Product Industry of 9th National Development Plan 2007-2013 (in Turkish Language).Ankara 2007.

Devlet Planlama Teskilati (DPT), (2007b). Specialized Commission Report on Marine Transportation of 9th National Development Plan 2007-2013 (in Turkish Language). Ankara 2007.

Energy Information Administration (EIA), (2008). International Energy Outlook 2008.Energy Information Administration Energy Information Administration (EIA), Annual Energy Outlook 2008, June 2008. [[http://www.eia.doe.gov/oiaf/aeo/pdf/0383\(2008\).pdf](http://www.eia.doe.gov/oiaf/aeo/pdf/0383(2008).pdf)], 18 August 2008.

European Maritime Safety Agency (EMSA) (2004). Action Plan for Oil Pollution Preparedness and Response. [<http://www.emsa.europa.eu/Docs/other/action%20plan.pdf>]

Faure, M. Hu, J. (2006). Prevention and Comparison of Marine Pollution Damage, Recent Developments in Europe, China and the US. Kluwer Law International, Printed in the Netherland.

Faure, M. Hui, W. (2003). The International regimes for the Compensation of Oil-Pollution Damage: Are They Effective?.RECEIL 12 (3) 2003. ISSN 0962 8797.

Fayett, L.A. (2005). New Approaches for Addressing Damage to the Marine Environment. The International Journal of Marine and Coastal Law, Vol 20, No 1.

Fornari, M. (2005). Conflicting Interests in the Turkish Straits: Is the Free Passage of Merchant Vessels Still Applicable?. The International Journal of Marine and Coastal Law, Vol 20, No 2.

Government Accountability Office (GAO), (2007a). Maritime Transportation, Major Spills Occur Infrequently, but Risks Remain. United States Government Accountability Office, 18 December 2007.

Government Accountability Office (GAO), (2007b). Crude Oil; Uncertainty about Future Oil Supply Makes It Important to Develop a Strategy for Addressing a Peak and Decline in Oil Production ,. United States Government Accountability Office, February 2007.

General Directorate of Petroleum Affairs (GDPA), Crude Oil Production of Turkey Based on Years, [http://www.pigm.gov.tr/yillara_gore_petrol_uretimi.htm], 6 December 2008.

Grant, K. Ownby, D. and Peterson, S.R. (2006). Understanding Today's Crude Oil and Product Markets. A Policy Analysis Study by Lexecon, an FTI Company, Undertaken for API. [<http://www.api.org/aboutoilgas/upload/OilPrimer.pdf>], 14 September 2008.

Guclu, Y. (2000).The Legal Regulation of Passage through the Turkish Straits. Mediterranean Quarterly - Volume 11, Number 3, summer 2000, pp. 87-99

Hearing (2006). Implementation of the Oil Pollution Act. Hearing Before the Subcommittee on Coast Guard and Maritime Transportation of the Committee on Transportation and Infrastructure House of Representatives one Hundred Ninth Congress Second Session, 27 April 2006.

Homan, A.C., Steiner T. (2007). OPA 90's impact at reducing oil spills. Marine Policy, 32 (2008) 711-718.

Hui, W. (2004). Eu Marine Oil Pollution Regime: The EU Marine Oil Pollution Prevention Regime – Recent Developments. European Environmental Law Review, November 2004.

Incidents Specific Preparedness Review (ISPR),(2008). M/V Cosco Busan Oil Spill in San Francisco Bay. Report on Initial Response Phase, 11 January 2008.

International Oil Pollution Compensation Funds (IOPCF), (2007).Report on the Activities of the International Oil Pollution Compensation Funds in 2007. [http://www.iopcfund.org/npdf/AR07_E.pdf], 22 February 2009.

International Tanker Owners Pollution Federation Limited (ITOPF), (2001). [<http://www.itopf.com/information%2Dservices/country%2Dprofiles/individual.html#tlist>], 26 October 2008.

Kim, I. (2002). Ten Years After the Enactment of the Oil Pollution Act of 1990: a Success of a failure. *Marine Policy*, 26 (2002) 197-207.

Kim, I. (2003). A comparison Between the International and US Regimes Regulating Oil Pollution Liability and Compensation. *Marine Policy*, 27 (2003) 265-279.

Lee, H.L. and Nolte, C. (2008). Cosco Busan Pilot Charged with Pair of Crimes. *San Francisco Chronicle*, 18 March 2008. [<http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/03/18/BASOVLD49.DTL>], 16 October 2008.

Mansoor-Zia, F. (2005). International Regime and the EU Developments for Preventing and Controlling Vessel-Source Oil Pollution. *European Environmental Law Review*, June 2005.

Martin, K. (1999). Conflicts in Marine Environmental Protection: The Turkish Straits as a Case Study. *Transnational Law & Contemporary Problems*, 9: 681.

Mattson, G. (2006). MARPOL 73/78 and Annex I: An Assessment of its Effectiveness. *Journal of International Wildlife Law and Policy*, 9:175-194, 2006.

National Research Council, (1998). Double-Hull Tanker Legislation: An assessment of the Oil Pollution Act of 1990. Committee on Oil Pollution Act of 1990 (Section 4115).

New York Times, (2008). Oil Spill Spreads in San Francisco Bay. [<http://www.nytimes.com/2007/11/10/us/10spill.html>], 8 August 2008.

National Oceanic and Atmospheric Administration (NOAA), Hazardous Materials Response and Assessment Division, (1992). Oil Spill Case Histories 1967-1991; Summaries of Significant US and International Spills. Report No. HMRAD 92-11, Seattle, Washington, September 1992.

Office of Integrated Analysis and Forecasting, US Department of Energy. [[http://www.eia.doe.gov/oiaf/ieo/pdf/0484\(2008\).pdf](http://www.eia.doe.gov/oiaf/ieo/pdf/0484(2008).pdf)], 4 August 2008.

Oil Spill Intelligence Report, (2004). Buzzard's Bay Oil Spill Update: Stakeholder Reports Significant Progress at One Year Anniversary. 29 April 2004, Vol. 27 Issue 18, p1-2, 2p.

Oil Spill Intelligence Report, (2008). Settlement Reached on 2006 Ski Area Oil Spill. 22 June 2008, Vol. 31 Issue 22, p3-4, 2p.

Pamir, N. (2007). The Black Sea: A Gateway to energy Security and Diversification". Southeast European and Black Sea Studies Vol. 7, June 2007, pp. 245-263.

Paris MOU, (2006). The Paris Memorandum of Understanding of Port State Control Annual Report, [<http://www.parismou.org/upload/anrep/anrep2006low.pdf>]

Psaraftis, N.H. (2006). Maritime Safety in the Post-*Prestige* Era, Marine Technology, Vol 43, No. 2, April 2006, pp. 85-90.

Ramseur, J.L. (2007). Oil Spills in US Coastal Waters: Background, Governance, and Issues for Congress. Congressional Research Service Report for Congress, Order Code RL33705, 23 August 2007.

Ramseur, J.L. (2008). Environmental Activities of the US Coast Guard. Congressional Research Service Report for Congress, Order Code RS22145, 22 May 2008.

Region I and II Regional Response Teams, (2007). National Oil and Hazardous Substances Response System. March, 2007. [[http://www.uscg.mil/d1/response/rrt/AboutOil/02_ pr event .pdf](http://www.uscg.mil/d1/response/rrt/AboutOil/02_pr event .pdf)], 10 November 2008.

Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC). (2008). Study of Maritime Traffic Flows in the Mediterranean Sea. Final Report - Unrestricted Version. July 2008.

Sainlos, J.C. (2004). The Role of the IMO in Developing National and Regional System for Preparation and Response. Spillcon 2004, 10th International Oil Spill Conference Brisbane, Australia, 23-27 August 2004. [<http://www.spillcon.com/2004/papers/SAINLOS.pdf>], 24 October 2008.

Smil, V. (2000). Energy in the Twentieth Century: Resources, Conversions, Costs, Uses and Consequences. *Annu. Rev. Energy Environ.* 2000. 25:21-51.

Swanson, S.R., (2001). OPA 90+10: The Oil Pollution Act of 1990 After Ten Years. *Journal of Maritime Law of & Commerce.* 32 J.Mar.L.& Com. 135, January, 2001.

Talley, W.K. Jin, D., Kite-Powell, H. (2001). Vessel Accident Oil-spillage: Post US OPA-90. *Transportation Research Part D* 6 (2001) 405-415.

Turkiye Buyuk Millet Meclisi (TBMM), (2004). Draft Statute of Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances and Environmental Commission Report (in Turkish Language). [<http://www.tbmm.gov.tr/sirasayi/donem22/yil01/ss718m.htm>], 15 December 2008.

The European Evaluation Consortium (TEEC) (2005). Global evaluation of the Community Action Programme in the field of Civil Protection, the Community Mechanism to facilitate reinforced cooperation in civil protection assistance interventions and the Marine Pollution framework. Final Report, prepared for the European Commission Directorate-General for Environment. July 5th 2005.

Thebault, L. (2004). Maritime Safety Culture in Europe. *Managerial Law*, 2004, 46, 1; ABI/INFORM Global.

US Department of Transportation (2001). OPA 90 Programmatic Regulatory Assessment (PRA), Benefit Cost and Cost Effectiveness of Eleven Major Rulemakings of the Oil Pollution Act of 1990. Economic Analysis Division, John A. Volpe Transportation Systems Center Cambridge, Massachusetts. US Coast Guard, Marine Safety and Environment Protection, Washington, DC. May, 2001.

United States Coast Guard (USCG), (2008a). Oil Spill Liability Trust Fund, [http://www.uscg.mil/npfc/About_NPFC/osltf.asp#opa], 21 August 2008.

United States Government Accountability Office (GAO), (2007). Maritime Transportation; Major Oil Spills Occur Infrequently, But Risks Remains, 18 December 2007.

Urrutia, B. (2006). The EU Regulatory Action in the Shipping Sector: A Historical Perspective. *Maritime Economics & Logistics*, 2006, 8, (202-221).

USCG Marine Safety Manual, Marine Environmental Protection, Volume IX, COMDTINST M16000.14. [[http://www.uscg.mil/directives/cim/16000-16999/CIM_16000_14 .pdf](http://www.uscg.mil/directives/cim/16000-16999/CIM_16000_14.pdf)], 2 November 2008.

USCG VTS Port Arthur User Manual, Vessel Traffic Service Port Arthur, [[http://www.uscg.mil/d8/vtsPortArthur/documents/REVISED-Port%20Arthur_User Manual_6-08.pdf](http://www.uscg.mil/d8/vtsPortArthur/documents/REVISED-Port%20Arthur_UserManual_6-08.pdf)], 6 November 2008.

USCG, (2008b). Claims Adjudications, [[http://www.uscg.mil/ccs/ npfc/About_ NPFC/claims _adjudication.asp](http://www.uscg.mil/ccs/npfc/About_NPFC/claims_adjudication.asp)], 21 August 2008.

Vanem, E., Endresen, Q., Skjong, R. (2007). Cost - effectiveness Criteria for Marine Oil Spill Prevention Measures. *Reliability Engineering and System Safety* 93 (2008).

Yavuz, S. (2003). Port State Control in the World and Necessary Arrangements to Harmonize the Turkish and European Union Port State Control Legislative Framework (in Turkish Language). *Uzmanlik Tezi, Devlet Planlama Teskilati, Iktisadi Sektorler ve Koordinasyon Genel Mudurlugu, Altyapi Hizmetler Dairesi, Yayin No: DPT: 2667.*

Zia-Mansoor, F. (2005). International Regime and the EU Developments for Preventing and Controlling Vessel-source Oil Pollution. *European Environmental Law Review*, June 2005,

Appendix 1. English Version of OSRL (not official translation)

Official Gazette No: 25752 of March 11, 2005

Law Pertaining to Principles of Emergency Response and Compensation for Damages in Pollution of Marine Environment by Oil and Other Harmful Substances

Law No: 5312

Date of Enactment: March 3rd, 2005

Section One

General Provisions

Purpose

Article 1: The purpose of this Law, in view of rights and obligations stemming from international and national law in matters of assuring marine safety and preventing marine pollution, is to establish;

- a) The principles concerning response and preparedness for eliminating the risk of pollution, or for reducing, containing, or eliminating pollution in emergency incidences stemming from ships or operations of coastal facilities,
- b) The principles for determining and compensating for damages resulting from an incident,
- c) The principles concerning fulfillment of international commitments, and
- d) Powers, duties, and responsibilities of the officials of institutions, organizations, ships, and facilities as stipulated in the Law, along with those of any (*other*) persons subject to the Law.

Scope

Article 2: This Law includes the authorities , duties and responsibilities of the Ministries , Public Authorities and liable parties of the ships of 500 gross tons or larger, that are carrying petroleum or other harmful substances and are already in or are requesting to enter an area of enforcement for any reason; along with the liable parties of coastal facilities performing operations that might cause pollution with petroleum or other noxious substances.

War ships, auxiliary war ships, along with any ships owned or operated by a State and used for noncommercial activities, shall not be subject to this Law.

Definitions

Article 3: Terms as used in this Law shall have the meanings as indicated below:

- a) Emergency response unit: Unit formed, authorized, and equipped for purposes of implementing preventive measures; preventing or eliminating pollution; extinguishing any fires that might break out, or otherwise outsourcing services to achieve the same ends, all under the framework of emergency response plans.
- b) Emergency response plan: Plans at national, regional, and local levels covering organization, powers, duties, responsibilities, operations to be performed, preparedness, response capability and resources, and other issues in the context of emergency response.
- c) Ministry: Ministry of Environment and Forestry.

- d) Other noxious substances: Materials listed in Amendments II and III to Annex II of International Convention for Prevention of Pollution from Ships (MARPOL 73/78) and any and all substances causing pollution when mixed with marine environment, such substances not being limited to the said listing, however, excluding radioactive materials.
- e) Guarantor: According to provisions of this Law, person, institution, or state other than the liable party, undertaking financial liability and furnishing document of financial liability for paying damages on behalf of the liable party.
- f) Preparedness: The state of readiness in maintaining all sorts of equipment, tools, hardware, materials, and trained manpower, with capacity to respond in case an incident occurs, by taking emergency measures in an effective and immediate manner and minimizing any damages that might stem from the incident.
- g) Coastal facility: Facility in or near coastal areas, including offshore operations and pipelines, performing activities that might cause marine pollution by petroleum or other noxious substances.
- h) Pollution: Mixing of petroleum or other noxious substances with marine environment, as a result of an incident, in a way that might cause harm to *living resources* and marine life, constitute a hazard to human health, hinder maritime activities including fishing and other legal utilization of the seas, change the quality of sea water, and disturb ecological balance.
- i) Preventive measure: Measures taken in order to prevent or contain possible pollution that might occur after an incident has taken place.
- j) Incident: A situation that brings about pollution or damage, or creates risk of the same, originating from vessels or coastal facilities due to collision, wreckage, fire, explosion or other causes, hence requiring implementation of emergency response plans or carrying out an emergency response.
- k) Intervention / Response: Actions to reduce, remove, or contain the damage caused by pollution after occurrence of an incident, or implementation of preventive measures.
- l) Undersecretariat: Office of the Undersecretary of Maritime Affairs.
- m) Petroleum: Substances listed in Amendment I to Annex I of International Convention for Prevention of Pollution from Ships (MARPOL 73/78) and, not being limited to the said list, any and all naturally formed underground mixtures of liquid hydrocarbons, such and crude oil, fuel oil, sludge, or refinery products.
- n) Liable party: Owners, captains, operators, charter parties, possessors, or guarantors of vessels of five hundred gross tons or larger carrying petroleum or other noxious substances, or coastal facilities, to whom obligations for paying damages or implementing protective measures can be attributed,
- o) Claimant: Real or legal person requesting compensation for damages according to provisions of this Law.
- p) Areas of enforcement: For purposes of enforcement of this law; area of maritime jurisdiction of Turkey consisting of inland waters, territorial waters, continental shelf, exclusive economic zone and, also, open sea areas beyond territorial waters, this latter, however, only in case of emergency situations as envisaged under this Law and as confined to purposes of emergency response to such incidences and compensation for damages thereof, and furthermore depending on the decision to be made by the Undersecretariat by obtaining opinion of the Ministry, Ministry of Foreign Affairs, and other relevant public institutions.
- q) Damages: Stated in Article 6 of this Law and expenditures pertaining to assessment and compensation of damages and resolution of any disputes thereof,
- r) Harmless passage: Navigation through Turkish territorial waters; for purposes of traversing territorial waters without entering Turkish inland waters or without calling at any place of anchorage or port *outside* the inland waters; or for purposes of accessing or leaving Turkish inland waters, or for calling at a place of anchorage or port facility outside inland waters, or for departing from the same.

Section Two

Powers, Duties, and Responsibilities

Powers, duties, and responsibilities of various organizations

Article 4: Duty of general coordination for enforcement of this Law shall belong to the Ministry. Institutions as authorized by this Law shall be obliged to notify the Ministry, without delay, about any information they may obtain and actions they may take under this Law.

Powers, duties, and responsibilities for preparing emergency response plans, implementing emergency response plans in coastal areas, determining kind and impact of pollution, assessment of damage to environment and rehabilitation of the areas affected by post-incident pollution shall belong to the Ministry; powers, duties and responsibilities for implementing emergency response plans to prevent pollution of the sea as caused by marine vehicles, matters of preparedness and intervention in case of pollution, and matters of compensation for damage and notification of guarantees of financial liability shall belong to Undersecretariat; and, finally, the powers, duties, and responsibilities pertaining to public order and law enforcement shall belong to Coast Guard Command.

Assuring safety of navigation, life, property, and environment

Article 5: Liable parties of ships and coastal facilities subject to this Law shall be responsible for taking any and all measures as stipulated by international law and as required under obligations related to assuring safety of navigation, life, property, and environment, including protective measures and maintaining preparedness, in order for preventing incidents and, if an incident does occur, then for reducing, removing, or containing the damage thereof.

Ships with foreign flags carrying petroleum and/or other noxious substances subject to this Law, failing to furnish internationally recognized documents to prove their compliance with standards pertaining to safety of navigation, life, property, and environment, such standards as set by international conventions signed by Turkey, or bearing clear evidence of failure to comply with such standards, however, except in case of force majeure pertaining to life rescue services; shall not be allowed to enter Turkish inland waters or territorial waters for purposes of accessing Turkish inland waters or calling at a place of anchorage or port outside the inland waters; any ship that happens to have entered the said areas shall be immediately expelled or allowed a maximum period of thirty days to comply with standards. Any vessel that is determined to have failed to comply with standards, by the end of the period allowed, shall be immediately expelled. Ships carrying Turkish flag and not in compliance with the standards under this Law shall be laid up and declared unseaworthy until the standards are complied with. Cargo of ships in this status shall be transferred, by the owner of the ship or of the cargo, to another ship compliant with standards; and any cargo thereof that needs to be disposed of as a requirement of legislation shall be disposed of in an appropriate way.

A ship subject to this Law shall be obliged to notify the Office of the Undersecretary about the ship and the cargo it carries forty-eight hours before entering Turkish territorial waters for purposes of access to Turkish inland waters or calling at a place of anchorage or port outside of inland waters; or notify Undersecretariat as such immediately after leaving port of departure in case the duration of voyage to Turkish inland waters is less than forty-eight hours. Vessels failing to fulfill this obligation shall not be allowed to enter Turkish territorial waters or inland waters; those that happen to have already entered shall be immediately expelled thereof. **Procedures and principles pertaining to such notification shall be established in regulation.**

Measures taken to assure safety of navigation, life, property, and environment shall be supervised by competent authorities, in accordance with procedures and principles as established by this Law, other

relevant legislation, and international regulations. **Procedures and principles pertaining to such supervision shall be established in regulation.**

Procedures and principles pertaining to personnel, tools, and equipment that coastal facilities shall be obliged to maintain in order for being able to respond to possible pollution **shall be established in regulation.** Coastal facilities to be newly built shall not be allowed to operate until personnel, tools, and equipment that they are required to maintain are fully deployed.

Section Three

Compensation for damages

Liability for damage

Article 6: Liable parties of ships and coastal facilities under this Law shall be liable jointly and severally for compensation of expenditures for cleaning, expenditures for preventive measures, any damage to living resources and marine life, reinstatement of degenerated environment, expenditures for transport and disposal of any waste collected, damages to natural or living resources that are exploited for subsistence purposes, damage to private property, losses stemming from personal injury or death, loss of income, damage to capacity to earn income or revenues, and other public losses, as caused by pollution or risk of pollution stemming from any incident involving vessels or coastal facilities in any area of enforcement.

Liability of guarantor shall not relieve any liable party from any of its liabilities. Any damages not compensated by the guarantor shall be compensated by other liable parties.

For any damage caused by an incident involving two or more vessels, liable parties of all vessels shall be liable jointly and severally.

Those who have paid compensation due to an incident shall reserve the right for recourse to those who have caused the incident.

Limits of liability

Article 7: Provisions of international conventions signed by Turkey shall be save for as per the maximum amount of liability attributable to any liable party and the total sum of liability of the liable parties for each ship ;

Guarantees of financial liability

Article 8: Ships carrying petroleum and/or other noxious substances and requesting entry to areas of enforcement shall be obliged to possess documents of financial liability pursuant to international conventions signed by Turkey; to notify relevant authorities about these documents; and to present these documents when requested.

Ships with foreign flags subject to this Law and lacking the guarantees of financial liability referred to, as stipulated by international conventions signed by Turkey, shall not be allowed to enter Turkish inland waters or territorial waters for purposes of access to Turkish inland waters or calling at a place of anchorage or port outside the inland waters, except in case of force majeure pertaining to life rescue services. Any vessel that happens to have entered the said areas shall be immediately expelled or allowed a maximum period of thirty days to comply with standards. Any vessel that is determined to have failed to comply with standards, by the end of the period allowed, shall be immediately expelled. Ships with Turkish flags under this Law that are not compliant with the standards shall be laid up and declared unseaworthy until the standards are complied with. Cargo of ships in this status shall be transferred, by

the owner of the ship or of the cargo, to another ship compliant with standards; and any cargo thereof that needs to be disposed of as a requirement of legislation shall be disposed of in an appropriate way.

Coastal facilities shall be obliged to take financial liability insurance against the damages under this Law. Coastal facilities that fail to comply with the requirement to take insurance shall not be allowed to operate.

It shall be imperative for the compulsory financial liability insurance as stipulated in the above paragraph to be provided by insurance companies as determined by Undersecretary of Treasury or by a pool that these companies would form among themselves.

Ministry, provided that it obtains favorable opinion of Undersecretary of Treasury, shall have the power to defer the obligation of coastal facilities to purchase financial liability insurance for a maximum period of one year, counting from the date of effectiveness of general conditions, tariffs, and communiqués pertaining to such insurance.

Undersecretary of Treasury shall approve general conditions of financial liability insurance to be taken by coastal facilities. The Minister in charge of Treasury shall establish communiqués and tariffs for financial liability insurance. The Minister responsible for Treasury shall have the power to release of tariffs.

Declaration of financial liability guarantees

Article 9: For vessels requesting entry to Turkish territorial waters in order to call at a Turkish port, while under obligation to hold financial guarantees under this Law; copies of documents referred to in Article 8 shall be transmitted, before entry to Turkish territorial waters, to the head of destination port authority, through an agency resident in Turkey.

Obligations for such notification for vessels requesting entry to Turkish territorial waters for purposes of transit passage through Turkish straits shall be established in Turkish Straits Maritime Traffic Order Statute.

Vessels scheduled to sail in Turkish territorial waters for harmless passage shall be obliged to furnish to nearest port authority information in the documents pertaining to all communication equipment on board and financial liability, along with name of ship, call sign, its flag, port of registration, name of ship owner and location of its administrative headquarters, IMO number of the ship, type of guarantee, period of validity of guarantee, name and location of headquarters of the insurer, limits on liability, type and quantity of cargo, type of vessel, and documents and information on ports of departure and arrival.

Determination of damage

Article 10: A damage assessment commission shall be formed, chaired by the Ministry's representative and consisting of other representatives from the Office of Undersecretary, Coast Guard Command, General Directorate of Coastal Safety and Salvage Operations, and (*relevant*) Offices of Governorships and municipalities. Commission may also invite representatives of other institutions and experts, where it deems it necessary. **Procedures and principles pertaining to workings of the commission shall be established in regulation.**

Commission may outsource the task of assessing a part or all of the damage in question, to Turkish or foreign nationals or organizations with expertise in the subject. Amount of damages assessed thus shall become applicable upon approval of the commission.

Claims for compensation and fees and payments thereof

Article 11: Claims for compensation by the parties having sustained damages through an incident and claims for fees by the parties having responded to or removed pollution shall be filed with the Office of Undersecretary. Undersecretary shall assure that the liable parties would pay for damages and fees depending on damage assessment and resolution of any disputes thereof. Where an agreement is reached by the relevant parties on the amount of damage as assessed by the commission, the Undersecretary shall have the power to claim and collect damages from the liable parties and pay the parties that have sustained damages.

Where the polluting party cannot be determined, Undersecretariat shall respond, or cause others to respond, to pollution in question.

As regards damage caused by ships with foreign flag having caused pollution under this Law but where the liable parties cannot be located; the Undersecretariat, after obtaining opinion of Ministry of Foreign Affairs, may request assistance from the State of the flag in question in the matter of assuring compensation for the subject damage.

Procedures and principles pertaining to compensation and payments shall be established in regulation.

Prescription

Article 12: Period of prescription for claiming compensation due to incidents under this Law, unless a longer period is provided for in other Laws, shall be five years from the date when damage is discovered and liable party is determined, or, under any circumstances, ten years from the date when an incident occurs or, in case of a series of incidents, from the date of occurrence of the last incident in that series. Provisions of international conventions signed by Turkey pertaining to prescription shall remain applicable.

Section Four

Principles of Response / Intervention

Notification

Article 13: Any person involved in an incident, or having seen or heard of it or somehow having been informed about it, shall be obliged to notify the relevant authorities and emergency response units about the pollution or risk of pollution thereof. **Authorities to be notified and procedures and principles pertaining to notification shall be established in regulation.**

Identification of pollution

Article 14: The Ministry executes or ensures the execution of the necessary studies on the type, extend, amount, direction and speed of dissemination, possible outcomes and methods of disposal of the pollution resulting from an incident, and conveys this information to the relevant emergency intervention unit.

Intervention / Response

Article 15: Powers for intervening in case of pollution or risk of pollution stemming from an incident shall belong to Undersecretariat. The Undersecretariat, by requesting the opinion of the Ministry, outsource this mission to other public institutions, or companies performing professional activities in this field, which have been chartered for this purpose and which have their headquarters located in Turkey. Such outsourcing shall not relieve the Undersecretariat from any of its responsibilities and shall not empower the public institutions or companies thus commissioned to demand compensation directly from

the liable parties. Rights of General Directorate of Coastal Safety and Salvage Operations as regards rescue / salvage and assistance shall remain reserved.

If required, the authorities indicated in the above paragraph could be assumed by the Ministry.

In case of pollution caused by ships and coastal facilities, any ship involved in the incident, along with any ships and coastal facilities in proximity of the site of incidence, shall carry out, or cause it to be carried out, a first response, as permitted by the limits of staff, tools, and equipments that they may have on hand, and, once the competent emergency response units intervene, they shall follow the instructions of the said units. Undersecretary shall notify the Ministry about the response activities as performed.

In accordance with international conventions signed by Turkey and provisions of international cooperation as included in emergency response plans as prepared in the context of those treaties; the Undersecretary, after obtaining favorable opinion of the Ministry and Ministry of Foreign Affairs, shall have the authority to invite foreign elements of emergency response to come to Turkey, or to send Turkish emergency response teams to foreign countries, and to pay or claim compensation for expenditures thereof.

Procedures and principles pertaining to authority of intervention allowed to private entities or public institutions in serving as emergency response units, or foreign elements of emergency response invited under the framework of international cooperation, shall be established in regulations.

In order to increase effectiveness of emergency response operations, Undersecretariat may temporarily suspend or modify maritime traffic at the site of incident or any other related marine areas, as it deems appropriate.

Transport and disposal of waste materials

Article 16: Transport of wastes collected at the site of incident to appropriate disposal facilities and disposal of waste as such shall be carried out in accordance with the principles as established in emergency response plans.

Identification and rehabilitation of areas affected by pollution

Article 17: Following emergency response operations, the Ministry shall carry out work for identification and rehabilitation of areas affected by pollution, along with monitoring programs for purposes of determining long-term impacts of pollution on human health, flora and fauna, and natural and historical assets.

Emergency response plans

Article 18: National emergency response plan, comprising the principles that pertain to activities and international cooperation in emergency response to pollution of marine environment by oil and / or other harmful substances, shall be prepared by the Ministry, in coordination with Undersecretariat and through obtaining opinion of General Directorate of Emergency Management of Turkey and other relevant institutions. **Procedures and principles pertaining to preparation of national emergency response plan and emergency plans at local and regional level shall be established in regulation.**

Coordination at times of emergency administration

Article 19: In case transition is made to emergency administration because of an incident under this Law upon request of the Ministry pursuant to Article 11/A in Law No: 3056 of October 10th, 1984; emergency response units to be authorized under this Law shall serve as elements of the *centers* to be formed.

In case an incident under this Law happens to have an impact on the shores as well, albeit not calling for transition to emergency administration, emergency response unit to be authorized under this Law shall serve as an element of the *centers* to be formed pursuant to provisions of the first Paragraphs above.

Under circumstances as described in the first and second Paragraphs above, representatives of General Directorate of Emergency Management of Turkey shall also join the Commission referred to in Article 10.

Section Five

Miscellaneous Provisions

Appointment of an arbitrator for resolution of disputes

Article 20: In case of an agreement between the Undersecretariat and the responsible party or quarantor, the settlement of possible disputes could be referred to an arbitrator or an arbitration committee. The arbitrator executes the Turkish Law. The arbitration is subject to either to the Law of Code of Civil Procedures (Law No. 1086) or to the International Arbitration Law (Law No. 4686)

Admission of vessels in danger to appropriate and safe maritime areas

Article 21: Undersecretariat shall have the authority to admit a ship in danger, upon its request, to an appropriate and safe marine area. **Procedures and principles pertaining to such admission shall be established in regulation.**

Inspection of vessels and law enforcement services

Article 22: If there exist serious concerns that a vessel might cause an incident or pollution or constitute such a risk under this Law, then the Undersecretariat may inspect the ship for a definite determination. Undersecretariat may delegate this authority to other institutions concerned, where it deems necessary to do so.

Coast Guard Command shall carry out all public order and law enforcement services as they pertain to application of this Law.

Pollution caused by bunker oil or cargo

Article 23: In a given incident involving the bunker oil or its derivatives carried on board a ship regardless of whether the ship is subject to this Law, or involving other hazardous substances / cargo carried by ships that are not subject to this Law; in process of response to pollution or risk of pollution, as well as assessing and compensating for damages thereof, the provisions of this Law shall apply except for those found in the third paragraph of Article 5 or in Articles 8 and 9. The provisions of international conventions to which Turkey is signatory shall remain reserved.

Regulations

Article 24: The Ministry and Undersecretariat shall jointly prepare Regulations pertaining to application of this Law, through obtaining opinion of relevant ministries and organizations.

Provisions amended

Article 25: Paragraph (j) as stated below has been added to Article 3 of Public Procurement Law No: 4734 of January 4th, 2002:

j) Under the Law Pertaining to Principles of Emergency Response and Compensation for Damage in Pollution of Marine Environment by Oil and Other Harmful Substances, procurement of services or procurement of ships, equipment, and materials that may be required urgently in preparing emergency response plans, or responding to pollution after an incident, or implementation of emergency response plans,

Article 26: The paragraph as stated below has been added to Provisional Article 4 of Law No: 4734, to follow the last paragraph therein:

Procedures and principles pertaining to line (j) of Article 3 of this Law shall be established in regulation to be issued by Ministry of Environment and Forestry through obtaining opinion of Ministry of Finance, the Public Procurement Authority, and Undersecretariat of Maritime Affairs.

Provisional Article 1: The regulations as envisaged in this Law shall be prepared and published in the Official Gazette within at most one year from the date of effectiveness of this Law; tariffs and communiqués on financial liability insurance shall be prepared and published in the Official Gazette within at most six months after the date of effectiveness of this Law.

Provisional Article 2: From among the coastal facilities that happen to be operational as of the date of effectiveness of this Law, the Ministry shall suspend operations of those that fail to make up for the deficiencies in personnel, tools, and equipment that they are obliged to maintain pursuant to the last Paragraph of Article 5 of this Law, within the period as stipulated in regulation.

Effectiveness

Article 27: This Law shall become effective three months after the date of its publication.

Executive Power

Article 28: The Council of Ministers shall carry out the provisions of this Law.

10 March 2005

Appendix 2. Table of OPA 90 Rules Related With Prevention and Response

OPA 90 Section	Title	Description	RAs	Order of Effectiveness
Structure and Equipment				
4115(a)	Establishment of Double Hull Requirements for Tank Vessels	With certain exceptions, required all newly constructed tank ships and barges navigating in US waters to be built with double hulls. Existing tank vessels without double hulls must be phased out over a 25-year period.	<i>Interim Regulatory Assessment for the Oil Pollution Act of 1990</i> Titles IV and V, prepared by Temple Barker and Sloane, Inc., Oct. 1991	II-III
4115(b)	Structural Measures for Existing Single-Hull Tank Vessels	The Coast Guard considered several structural and structure related options for existing single hull tank vessels over 5,000 gross tons. Based on the analyses, the Coast Guard determined that there are no structural measures that are both technologically and economically feasible for these vessels. Thus, no structural measures regulation is in force.	<i>Regulatory Assessment of Structural Measures for Existing Single-Hull Tankers</i> , prepared by ICF Kaiser, July 1995	II-III
4109	Requirements for Longitudinal Strength, Plating Thickness, and Periodic Gauging for Certain Tank Vessels	Proposed standards for minimum longitudinal strength and plate thickness for tank vessels that carry oil and required periodic gauging of these vessels after they reach the age of 30 years. The purpose of the regulation was to reduce the likelihood of oil spills from structural failure.	<i>Final Regulatory Assessment and Regulatory Flexibility Analysis</i> , prepared by USCG, July 1993	I-II
Vessel Casualties				
4116(c)	Escorts for Certain Tankers (Prince William Sound, Puget Sound, and other US waters)	Required two escort vessels for single hull tankers larger than 5,000 gross tons transporting oil in bulk in Prince William Sound, Alaska and Puget Sound, Washington.	<i>Final Assessment for Regulations Implementing Section 4116 (c) of the OPA 90, "Escort Vessels for Certain Tankers,"</i> prepared by USCG, June 1994	I
Operation Failures				
4110(b) (1)	Overfill Devices	Supplemented mandated conduct for monitoring oil transfer operations and required overfill	<i>Regulatory Assessment and Initial Regulatory Flexibility Analysis</i> ,	II

		warning devices.	prepared by USCG, Nov. 1993	
4115 (b)	Emergency Lightering Equipment and Advance Notice of Arrival Requirements for Existing Tank Vessels without Double Hulls	Required existing single hull tank vessels of 5,000 gross tons or more to carry certain emergency lightering equipment on board.	<i>Regulatory Assessment for Emergency Lightering Equipment and Advance Notice of Arrival Requirements for Existing Tank Vessels without Double Hulls</i> , prepared by USCG, May 1994	II-III
4115(b)	Operational Measures to Reduce Oil Spills from Existing Tank Vessels without Double Hulls	Decreased the likelihood of a vessel casualty and the amount of oil outflow after a casualty. Rule is effective until 2015 when single hull tank vessels will have been phased out.	<i>Regulatory Assessment</i> , prepared by USCG, June 1996	I-II-III
4115(a)	Designation of Lightering Zones	Established lightering zones, ecologically sensitive areas, the use of industry guidelines, weather and sea State restrictions, and work-hour limitations.	<i>Final Regulatory Assessment</i> , prepared by USCG, May 5, 1995	II-III
Oil Spill Cleanup				
4202(a)	Discharge Removal Equipment and Inspection for Vessels Carrying Oil—Deck Spill Control (DSC)	Required all vessels that carry oil as cargo and that operate in US waters to carry on-board deck spill control and removal equipment. Rule divided into two parts to facilitate analysis of effectiveness. The first part (designated by suffix DSC) pertains to coamings, portable pumps, sorbents, cleaning equipment and protective clothing, waste oil disposal applicable to deck spills.	<i>Discharge Removal Equipment Regulatory Assessment</i> , prepared by Volpe Center, May 1993	III
4202(a)	Discharge Removal Equipment and Inspection for Vessels Carrying Oil—Source Control and Containment (SCC) of Spills other than Deck Spills	This is the second part of rule 90-068 (designated by the suffix SCC), which pertains to all equipment required to be carried on board to control any oil spill at the source and to limit the quantity of oil that enters the water.	<i>Discharge Removal Equipment Regulatory Assessment</i> , prepared by Volpe Center, May 1993	I-II-III-IV
4202(a), (b)	National Planning and Response System: Tank	Expected to influence oil outflow volumes when	<i>Interim Regulatory Assessment For</i>	II-III-IV

	Vessel Response Plans (Oil)	an incident occurs through spill preparedness, response management, and removal of spilled oil from the water.	<i>Vessel Response Plans</i> , prepared by Mercer Management Consulting, March 1993	
5005	Equipment and Personnel Requirements under Tank Vessel and Facility Response Plans (PWS/TAPS)	Required the TransAlaska Pipeline System (TAPS) vessel and facility response plans to include pre-positioned response equipment. It also established oil spill response organization practice exercises and equipment inspections. This rule was formerly listed as rule 91-221.	<i>Preliminary Assessment</i> , Apr. 1992, <i>Regulatory Assessment</i> , Nov. 1992, and <i>Interim Final Regulatory Assessment for the OPA 90 Section 5005 Equipment and Personnel Requirements Under Vessel Response Plans for Tank Vessels Operating in Prince William Sound</i> , prepared by Volpe Center, Jan. 1993	IV
4202(b) (4)	National Planning and Response System: Facility Response Plans (Oil)	Required the owner or operator of a facility that poses “substantial harm” to the environment to prepare and submit an oil spill response plan.	<i>Regulatory Assessment of the US Coast Guard Interim Final Rule on Facility Response Plans</i> , prepared by ICF, Inc., Dec. 1992	II-III-IV
4202(a)	National Planning and Response System: Facility Response Plans (Hazardous Substances)	Required owners or operators of onshore marine transportation related facilities to submit a response plan for a worst-case discharge of hazardous substances.	<i>Regulatory Assessment</i> prepared by Volpe Center and USCG	II-III-IV
4202(a)	National Planning and Response System: Tank Vessel Response Plans (Hazardous Substances)	Required owners or operators of tank vessels carrying hazardous substances to submit a response plan for a worst-case discharge of hazardous substances.	<i>Regulatory Assessment</i> prepared by Volpe Center and USCG	II-III-IV
Mariners’ Certification and Licensing				
4102(b), (c), (d)	Renewal of Certificates of Registry, Renewal of Merchant Mariners’ Documents, Termination of Existing Licenses, Certificates, and Documents	Established renewal requirements and ways to obtain Certificates of Registry and Merchant Mariners’ Documents.	<i>Five Year Term of Validity for Certificates of Registry and Merchant Mariners’ Documents; Final Regulatory Assessment</i> , prepared by USCG, Aug. 1994	I-II-III-IV
4102 (e), 4105 (a), (b), (c)	Criminal Record Reviews in Renewals of Licenses and	Required Coast Guard to search for any past criminal activity (of	<i>Access to National Driver Register and Criminal Record</i>	I-II-III-IV

	Certificates of Registry; Access to National Driver Register	Merchant Mariners) for each applicant of a license, certificate of registry, or Merchant Marine Document (issuance and renewal).	<i>Review for Issuing Licenses, Certificates of Registry, and Merchant Mariners' Documents; Regulatory Assessment</i> , prepared by USCG, Feb. 1994	
4101 (b)	Review of Alcohol and Drug Abuse in Issuing Licenses and Certificates of Registry; Review of Alcohol and Drug Abuse in Issuing Merchant Mariners' Documents	Promoted a drug-free maritime workplace and safe vessel operations by identifying applicants who have a record of abuse.	<i>Applying for Issuance of Licenses, Certificates of Registry or Merchant Mariners' Documents; Regulatory Assessment</i> , prepared by USCG, Sept. 1994	I-II-III-IV
Financial Responsibility of Vessel Owners and Operators				
4303	Financial Responsibility for Water Pollution Civil Penalties (Vessels)	Addressed financial responsibility and imposed penalties for failure to comply with Section 1016 of OPA 90.	<i>Responsibility for Water Pollution (Vessels)</i> , prepared by USCG, March 31, 1994	I-II-III