
Oil Pollution and International Marine Environmental Law

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1. Introduction

After the Second World War not only the public interest in the environment increased in general. Concerns of coastal states about increasing ship-source marine pollution and oil spills started to grow as well. Some of the occurred incidents with tankers clearly demonstrated that oil spills in an environmentally or economically sensitive area could cause irreparable damage (Gold, 1998).

Oil pollution of the ocean comes from shipping activity and offshore oil production. Sea-bed activities on oil exploration and production constitute a relatively small part in the general amount of the pollution of marine environment with oil. The principal cause of marine pollution with oil is shipping. Traditionally shipping is considered to be “a polluting industry”. The world’s tanker fleet counts approximately 7 000 vessels with cargo capacities between 76 000 and 175 000 tons (Gennaro, 2004). Usual shipping operations, especially transportation of oil by tankers and accidents, result in the dumping of around 600 000 – 1 750 000 tons of oil into the ocean per year (Brubaker, 1993).

Due to the use of pipelines for petroleum products, oil transportation with tankers decreased significantly (Gennaro, 2004). However, the incidents with this type of vessels and the occurred oil spills occur constantly. The last oil pollution incident, which gained publicity and attention of the mass media, happened in October 2011 off the New Zealand’s coast. The grounding off of the tanker “Rena” and the followed oil leaking caused the environmental disaster. This oil spill seriously damaged wildlife, including penguins, seals, dolphins, whales and rare sea birds (New Zealand oil spill ship captain charged, 2011).

It must be stressed here that the oil spills and individual catastrophes are very spectacular, but the scientific research demonstrates that pollution from other sources damages the marine environment more. Furthermore, it should be noted that a small amount of oil is constantly seeping in the seas being assimilated into the ocean environment (Brubaker,

1993). Many chemicals carried at sea are intrinsically far more harmful to the marine environment. Although the impact of the oil pollution constitutes only a small part of a general pollution to the maritime environment, the consequences of oil spills and oil wastes are extremely damaging for marine landscape and ocean's inhabitants.

Spilled oil is very toxic. It can be lethal to adult animals even in relatively low concentrations. It may also cause physiological or behavioral disruptions of species. Oil spills also cause death through the prevention of normal feeding, respiration and movement functions not only of ocean wildlife, but also of marine life at the sea shore. Particularly dangerous oil spills are for birds. Oil spill can lead sometime to the tainting of fish and shellfish. Sometimes one can feel the consequences of the oil spills through the oily taste or smell to the seafood. An oil spill directly damages not only animals, plants and corals, fisheries, but also affects human activity in the area of fisheries through damaging of fishing boats, fishing gear, floating fishing equipment.

Oil spills affect not only the ocean space around them, but also shorelines, open waters and the seabed; wetlands; corals. They also damage fisheries and coastal amenities. Especially vulnerable for the potential damage is the area of shorelines. The caused damage is unpredictable and does not depend on the size of the oil spill. It depends rather on the closeness to the shoreline and vulnerability of the area. For example, a 9 000-ton diesel fuel spill from the "Tampico Maru", in the Baja California in 1957, damaged over 10 km of coastline. On the other hand, 10 000 tons of crude oil discharged by the "Argea Prima", in Puerto Rico in 1962, caused very little actual damage. The oil spill of 476 000 tonnes of crude oil, caused by the Ixtoc I oil platform blowout in the Gulf of Mexico, had caused relatively little damage. The damage from the "Argo Merchant" grounding in 1976 and oil spill of 50 000 tons were very serious. The oil spill of 40 000 tons by the VLCC "Exxon Valdez" in especially vulnerable area of Prince William Sound in Alaska, in 1989, resulted in an ecological disaster and very long and costly clean-up operations. The same phenomena were observed during the Iran-Iraq and Iraq-Kuwait military actions and resulted oil spills. The oil spill with "Atlantic Empress" with loss of almost 300 000 tons of crude oil in 1978 in the Atlantic Ocean did not cause any significant impact on economy, but seriously damaged an offshore ecosystem around the site of the catastrophe.

Under the right conditions the marine environment recovery natural process is incredibly quick and "painless", however, the internal mechanisms of the nature are not endless and marine environment needs proper treatment and protection. The new oil and gas development projects also raise more and more serious concerns of the environmentalists. For example, the recent decision to start the drilling in the Arctic seriously worried the environmentalists especially in light of the climate change issue, which have been widely discussed in the mass media. On 29 August 2011 Exxon Mobil Corp and Rosneft signed an agreement on the development of oil and gas in the Russian sector of the Arctic (Korsunskaya & Reddall, 2011). The region presumably obtains around 13% of the undiscovered oil resources and 30% of its natural gas. Although this project is considered to be highly beneficial for both sides, it is stressed by both sides that environmental safety is very important in this area (Howard, 2011), since this area is considered to be ecologically fragile. Partly the concerns address the transportation of oil and possible oil incidents.

In the international law in the course of time a comprehensive regulatory regime on prevention of marine oil pollution (particularly oil spills) was developed. Special attention was paid to the regulation of marine oil pollution by shipping (Salter & Ford, 2001), so the existing rules cover mostly vessel-source pollution. The most effective instruments in the marine environment protection are regional treaties. Almost all regional treaties include a general obligation for signatory states to prevent, reduce and control all forms of maritime pollution. In the Helsinki convention¹ and the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)² one can find more concrete clauses like the precautionary concept, polluter pays concept, best available technology, and best environmental practice.

However, the elaborated rules need to be enforced and complied with. A closer co-operation and sharing of informational resources within the international community is urgently required, especially in the cases of conventions and their amendments ratification.

This chapter is devoted to the existing rules of international law and certain unilateral legislation on the issue of marine environment pollution with oil as well as their development in the XX-XXI centuries. The liability and compensation schemes in cases of occurred oil pollution are also analyzed. The chapter also deals with the existing regional conventions on marine oil pollution and makes certain proposals on the improvement of the existing at present legislation.

2. International law documents on marine environment pollution

The first international convention on oil pollution was adopted in 1926 by the International Maritime Conference in Washington. This document however was not ratified.

Because of the significant pollution especially of the Atlantic Ocean during the World War II (military operations with submarines, torpedoes etc.), since 1945 the issue of oil pollution became very acute and more and more important.

Marine pollution particularly with oil is not clearly regulated in any particular global environmental convention. This form of pollution is considered in some of the international legal documents. The provisions of the international conventions on this issue are, however, relatively limited.

2.1. Stockholm declaration

The Declaration on the Human Environment (Stockholm Declaration)³ and Action Plan⁴ were adopted at the United Nations Conference on the Human Environment (UNCHE),

¹ Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992.

http://www.helcom.fi/Convention/en_GB/text/

² Convention for the Protection of the Marine Environment of the North-East Atlantic, 1992.

http://www.ospar.org/html_documents/ospar/html/OSPAR_Convention_e_updated_text_2007.pdf

³ Declaration of the United Nations Conference on the Human Environment, 1972.

<http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503>

held in Stockholm in June 1972. Both documents have special sections on marine pollution. This conference was one of the first attempts of the integrated approach to the global environmental issues.

It was stressed in the Principle 7 of the Stockholm Declaration on the Human Environment, 1972 that states shall take all possible steps to prevent pollution of the seas by substances that create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea (Sokolova, 2005).

Principle 22 addresses the issue of liability and compensation for marine pollution damage requiring from states further cooperation in order to develop rules of international law regarding this issue.

Action Plan consisting of 109 recommendations proposes to address pollution by means of the environmental assessment, environmental management and supporting measures.

One of the most important achievements during the UNCHE was the establishment of a new United Nations institution - the United Nations Environment Programme (UNEP). As for the issues of marine environment protection, the UNEP adopted "regional seas action plans". The organization also monitors pollution in some of the regional seas areas. This shift to the regional perspective was caused by the idea that the transboundary problems of the oceans or environmental protection of any particular sea could be better managed from a regional basis. The first covered region was the Mediterranean (Suarez, 2006).

2.2. Global conventions on the law of the sea

As a separate issue oil pollution is not regulated in the global conventions on the law of the sea. However, the Geneva Conventions of 1958 contain the provisions on environmental protection of the ocean against oil pollution through oil pipelines or continental shelf development (Art. 5(1) and 5(7) of the Geneva Convention on the Continental Shelf⁵ and Art. 24 of the Geneva Convention on the High Seas⁶) (Gennaro, 2004). These provisions are, however, rather superficial. Geneva Convention on the High Seas in its Art. 24 proclaims the obligation of states to draft national legislation on pollution prevention from ships or pipelines or sea-bed activities. Art. 5(1) and 5(7) of the Geneva Convention on the Continental Shelf concern the exploration and exploitation of the continental shelf and its natural resources. The coastal state has to ensure that there is no unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea, oceanographic or other scientific research. The coastal states shall also establish safety zones around the offshore installations and take measures for the protection of the living resources of the sea from harmful agents.

Another comprehensive document for the different aspects of ocean matters including marine environment protection is the United Nations Convention on the Law of the Sea

⁴ Action Plan for the Human Environment, 1972.

<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=97&ArticleID=1492&l=en>

⁵ Convention on the Continental Shelf, 1958. United Nations, Treaty Series. Vol. 499. P. 311.

⁶ Convention on the High Seas, 1958. United Nations, Treaty Series. Vol. 450. P. 11, p. 82.

(UNCLOS)⁷ adopted on 10 December 1982 at Montego Bay (came into force on 16 November 1994). This document became global. This “umbrella convention” does not contain detailed rules for the protection of the marine environment, only general provisions. These rules shall be implemented by means of the further regulations of the international law (Zhu, 2006).

The provisions of UNCLOS on maritime protection are of great importance world-wide. They are contained in Part XII of the Convention. These regulations are general. The convention proclaims general obligation of states to protect the marine and coastal environment and its resources (Art. 192). Art. 193 grants to the states the right to develop their natural resources under the consideration of their natural environmental policy. Art. 193 stresses as well the duty of states to protect and preserve the marine environment.

The general provisions of the mentioned Art. 192 and Art. 194 on measures to prevent, reduce and control pollution of the marine environment are considered to be a part of the international customary law.

Art. 195 and 197 require from state not to transfer damage or hazards or transform one form of pollution into another and to cooperate with each other on global or regional basis (Dahm et al., 2002).

The convention also contains the enforcement procedure for the rules on marine pollution prevention by the flag state (Art. 217) and by the coastal states over the vessels in its ports or off-shore terminals (Art. 220).

The protection of marine environment during the offshore development of oil is reflected in Art. 207, regulating the protection of marine environment against pollution from land-based sources. Art. 208 regulates protection of the marine environment from sea-bed activities under their jurisdiction. Art. 208 (4) stresses the need to reach a compromise in this respect on a regional level, what should be considered as a recognition of necessity to solve this problem on the regional level. Art. 213-214 contain the enforcement rules for the mentioned provisions.

Art. 235 proclaims liability of the states for their international obligations concerning the preservation and protection of marine environment. Art. 235 (2) requires the states to ensure the possibility to obtain compensation or other relief in case of the damage caused by the pollution.

2.3. Agenda 21 – Programme of action for sustainable development

Another international conference – The Earth Summit, which took place in Rio de Janeiro, Brazil from 3-14 June 1992 – was also very important for the environmental and development issues. This meeting was prepared by the United Nations Conference on Environment and Development (UNCED).

⁷ United Nations Convention on the Law of the Sea, 1982.
http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

The outcome of this conference was the adoption of several non-binding legal instruments, including Agenda 21⁸. Agenda 21 is a programme of action for sustainable action world-wide.

Chapter 17 of this document is devoted to the oceans “Protection of the Oceans, All Kind of Seas, including Enclosed and Semi-enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of their Living Resources”. This chapter links the activities of the conference with the UNCLOS. The chapter stresses the need of the marine pollution protection (Gold, 1998). The danger of offshore oil and gas operations for the marine environment and the need to minimize this danger are also in this chapter. Agenda 21 stresses the need to prevent especially the marine pollution from vessels including illegal discharges and pollution caused by ships in particularly sensitive areas. The need to reduce the risks of accidents is also stressed. Shipping has to comply with the provisions of the International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL)⁹ and the UNCLOS. International cooperation with regional or global international organizations and, where appropriate, with industry-based organizations shall be improved.

This document did not establish a new legal framework on ocean governance, but confirmed the importance and fundamental role of the UNCLOS in this respect especially in the protection and sustainable development of the marine and coastal environment and its resources (Suarez, 2006).

3. International legal documents on the oil pollution at sea

3.1. OILPOL'54

*International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL)*¹⁰ was adopted in London on 12 May 1954. This convention became the first international treaty dealing with the oil pollution.

It addressed the discharge of oil and oily wastes into the water. OILPOL'54 prohibited the intentional discharge of oil and oily mixtures from certain vessels in specified ocean areas. The ballast discharges have to be made in the permitted areas with a special record in an oil record book. This book shall be inspected at regular intervals. The enforcement of the convention had to be fulfilled by the flag state.

The Convention became a significant achievement at that time. In the preamble of the later adopted MARPOL convention it is stressed that OILPOL was the first multilateral instrument to be concluded with the prime objective of protecting the environment. The preamble of the MARPOL also appreciates the significant contribution, which the OILPOL has made in preserving the seas and coastal environment from pollution.

⁸ Agenda 21. http://www.un.org/esa/dsd/agenda21/res_agenda21_00.shtml

⁹ International Convention for the Prevention of Marine Pollution from Ships, 1973, United Nations, Treaty Series. Vol. 1340. P. 184 (as modified by Protocol, 1978, United Nations, Treaty Series. Vol. 1340. P. 61).

¹⁰ International Convention for the Prevention of Pollution of the Sea by Oil, 1954. United Nations, Treaty Series. Vol. 327. P. 3.

3.2. “Torrey Canyon” disaster and intervention convention

On 18 March 1967 in the English Channel the accident with the oil supertanker “Torrey Canyon” occurred. The grounding of the vessel was caused by human error. The entire cargo of the vessel - 120 000 tonnes of crude oil – was spilt. Around 15 000 sea birds died because of the spill. Damage claims in Great Britain amounted to GBP 6 million and to FRF 40 million in France. States quickly recognized the danger of a major oil spill to the coastlines.

The “Torrey Canyon” incident demonstrated that there was no internationally agreed means of responding to accidents that had environmental implications. The regulation of compensation to be paid also did not exist on the international level (Özçayir, 2004).

This incident was the first major oil pollution incident. Due to its strong impact on the development of the international law it became historical. This oil spill clearly demonstrated that the development of the marine environmental legislation is closely connected with the occurring incidents at sea.

The International Maritime Organization established a Legal Committee to deal with the deficiencies in the international system for assessing liability and compensation for oil-spill damage, and a new subcommittee of the Maritime Safety Committee (MSC) to deal with environmental issues (Özçayir, 2004).

The occurred incident accelerated the formation of MARPOL convention and in 1973 the *International Convention for the Prevention of Pollution from Ships (MARPOL)* was adopted to cover pollution by oil, chemicals, harmful substances in packaged form, sewage and garbage (Özçayir, 2004).

As another consequence of this incident the International Maritime Organization adopted the *International convention relating to intervention on the high seas in cases of oil pollution casualties* done at Brussels on 29 November 1969 (Intervention Convention)¹¹, enabling a government to take action, if an accident in international waters threatened its coastline with pollution (Özçayir, 2004).

In its preamble it stresses the need to protect the interest of people against the consequences of a maritime casualties resulting in oil pollution. Measures of an exceptional character taken in order to protect the environment on the high seas are admissible. These measures do not affect the principle of freedom of the high seas.

In Article I the Convention grants a permission to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil in cases of a maritime casualty or acts related to it against vessels which pose a threat to their coastlines.

Article VI declares the obligation of a state caused damage to others to pay compensation in case, if the measures exceeded those reasonably necessary.

¹¹ International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969. United Nations, Treaty Series. Vol. 970. P. 211.

It provides coastal states with limited rights to take preventive measures on the high seas against foreign vessels which are considered to present a grave and imminent danger to coastlines and other coastal interests from oil pollution as a result of a maritime casualty.

The Convention has been criticized both for allowing too much discretion to coastal states and for limiting the rights of such states to take action. In 1973 a Protocol¹² covering substances other than oil was added.

4. International liability regime for oil pollution

4.1. Liability for Oil Pollution in the international conventions

The “Torrey Canyon” incident demonstrated that in case of the oil pollution of the ocean there were no rules of international law making the polluter liable. OILPOL/54 left the issue of liability for pollution to the national law.

It was decided to develop international legal scheme with the liability regime for oil spills.

The present international regime of compensation for damage caused by oil pollution is based on two conventions: *International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969)*¹³ and *International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND 1971)*¹⁴.

The CLC 1969 was elaborated within the Inter-Governmental Maritime Consultative Organization and signed on 29 November 1969 in Brussels. It ensures the compensation to be paid. The general principle provided in the convention is that those causing oil pollution should pay compensation.

The convention aims to ensure the adequate compensation to victims of oil pollution damage resulting from maritime casualties involving oil-carrying ships. The convention applies to the pollution damage caused on the territory of the Member States to the Convention and related preventive measures (Art. II). The CLC does not apply to ships or vessels owned or operated by a State and used for non-commercial service. The CLC applies to State-owned merchant fleets.

Art. III of the Convention makes the owner of a ship strictly liable for the pollution damage caused by the discharge from the ship. The shipowner is liable even in the absence of any fault, for any damage by pollution caused by the oil. However, the shipowner can normally limit his financial liability up to an amount established according to the tonnage of the ship. This amount is guaranteed by his liability insurer. The liability insurance is compulsory.

Traditional liability exemption concept of fault and negligence did not apply under the CLC. The admissible exceptions out of “strict liability”-rule are damage resulting from an act of

¹² Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances Other Than Oil, 1973. United Nations, Treaty Series. Vol. 1313. P. 4.

¹³ International Convention on Civil Liability for Oil Pollution Damage, 1969. United Nations, Treaty Series. Vol. 973. P. 3.

¹⁴ International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971. http://www.iopcfund.org/npdf/Text%20of%20Conventions_e.pdf

war or grave natural disaster or damage wholly attributable to sabotage by a third party or wholly caused by the failure of authorities to maintain navigational aids.

The Amendments of the Protocol of 1992¹⁵ extended the sphere of application of the Convention to the exclusive economic zone. The amendments adopted in the Protocol in 2000¹⁶ raised liability rates.

The convention uses the standard of the Special Drawing Rights (SDR) of the International Monetary Fund.

This convention provided for a uniform set of international rules and procedures for determining liability and compensation. The introduction of the CLC convention significantly facilitated the recovery of compensation for oil pollution damage.

This convention is widely accepted, however, the US refused to adopt the CLC. The CLC's provisions do not apply to the waters of states not accepted the CLC. In such a way, oil spills in the waters of the non-CLC states, such as the United States, remain uncovered.

During the 1969 conference at the Inter-Governmental Maritime Consultative Organization, which developed the CLC, it was recognized that there would be incidents which would require compensation limits in excess of the available under the CLC.

To provide for compensation for the circumstances not covered by this convention, an international fund was established under the terms of the 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage to administer this compensation system.

The FUND Convention is expertly administered by the International Oil Pollution Compensation Fund Secretariat in London. This fund is an intergovernmental organization established by States. Any state which accepts the FUND Convention automatically becomes a member of the International Oil Pollution Compensation (IOPC) Fund. The FUND is financed by a levy applied to individuals and corporations dealing with the import and export of oil in contracting states.

The convention also introduced a compulsory liability insurance requirement for ship owners.

Only oil (cargo or bunkers) carried in bulk by vessels is covered. Parties to the FUND must also be parties to the CLC, and the flag state of the vessel, which caused the damage, must also be a party to the FUND, if the shipowner is also seeking compensation.

The IOPC Fund becomes involved by providing supplementary compensation when the amount payable by the shipowner and his insurer is insufficient to cover all of the damage.

¹⁵ Amendments of the Limitation Amounts in the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969.

http://www.iopcfund.org/npdf/Text%20of%20Conventions_e.pdf

¹⁶ Resolution LEG.1(82), 18 October 2000. Amendments of the Limitation Amounts in the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969.

http://www.austlii.edu.au/au/legis/cth/consol_act/potsla1981357/sch3.html

Any person or company, which has suffered pollution damage in a Member State of the IOPC Fund 1992 caused by oil transported by ship, can claim compensation from the shipowner, his insurer and the Fund. This applies to individuals, business, local communities or States.

To be entitled to compensation, the damage must result from pollution and have caused a quantifiable economic loss. The claimant must substantiate the amount of his loss or damage by producing accounting records or other appropriate evidence. Compensation may be claimed for property damage, clean-up operations, economic losses of fishermen or those engaged in mariculture and tourism sector (ITOPF, 2002).

Since its establishment the IOPC Fund has been involved in some 120 incidents of different graveness in around 20 countries. Over US\$ 630 million were paid as a compensation.

The FUND pays compensation to any claimant who has suffered pollution damage in cases where no liability arises under the CLC as the shipowner is protected by one of the CLC exemptions; or the shipowner is financially unable to meet the CLC obligations and the available insurance coverage is insufficient; or the damage exceeds the shipowner's CLC liability. Most cases fall within the third category.

Claims for the compensation shall be brought in the applicable courts of contracting states.

During the 1984 Diplomatic Conference at the International Maritime Organization it was decided to revise completely both the CLC and the FUND instruments. This decision was strongly lobbied by the USA. After the "Amoco Cadiz" incident it was obvious that the CLC and FUND limits were not sufficient.

These protocols were some sort of the compromise between oil and shipping industries and coastal states for the protection of the marine and coastal environment. The Protocol of 1984 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969; and the Protocol of 1984 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 raised the liability limits and extended jurisdiction to the exclusive economic zone. However, both documents met the opposition of the USA after the "Exxon Valdez" grounding and did not enter into force. The 1992 Protocols¹⁷ raised the liability limitation and based the limitation on the vessel's gross tonnage. The 1992 CLC and FUND Protocols repeated contents of the 1984 protocols. The Protocols raised the compensation limitations and extended the jurisdiction of the conventions to the exclusive economic zones of contracting states. The amendment procedures for the conventions were also simplified.

The 2000 amendments¹⁸ raised again the liability limitations up to 4,51 – 89,77 million SDR depending on the gross tonnage of the vessel.

¹⁷ Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969. http://www.iopcfund.org/npdf/Text%20of%20Conventions_e.pdf; Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971. http://www.iopcfund.org/npdf/Text%20of%20Conventions_e.pdf

¹⁸ IMO Resolution, 18 October 2000. Adoption of Amendments of the Limits of Compensation in the Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971. http://www.iopcfund.org/npdf/Text%20of%20Conventions_e.pdf

4.2. Industry Initiatives

Simultaneously with the development of the CLC and the FUND Conventions the shipping and oil industries elaborated compensation regime schemes. It was made under the pressure of the publicity after the Torrey Canyon incident. *Tanker Owners' Voluntary Agreement Concerning Liability for Oil Pollution, 1969, as amended (TOVALOP)*¹⁹ and *Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution, 1971, as amended (CRISTAL)*²⁰ were developed. The introduction of these schemes took place, since oil tanker industries were aware that the CLC and FUND conventions would take too long to enter into force and coastal states could take unilateral measures.

TOVALOP was a voluntary agreement amongst tanker owners, including bareboat charterers. The main aim of this agreement was to encourage tanker owners to clean up spills, regardless of fault, with the assurance of recovering their costs from their P&I club and to compensate governments for the clean-up costs. TOVALOP members were required to carry sufficient insurance to cover their obligations under the scheme, including the clean-up costs. TOVALOP scheme was made as close as possible to the CLC provisions. After the elaboration of the Protocol to the CLC in 1984 there were even proposals to make in the TOVALOP the tanker owner liable for all cases of oil spills, even covered by the FUND. This risk had to be additionally insured. However, these proposals have been rejected.

TOVALOP was managed by the International Tanker Owners' Pollution Federation (ITOPF) in London. ITOPF was charged with interpreting the scheme and handling claims directly.

Another voluntary interim agreement introduced by the oil industry was Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL). This initiative commenced in April 1971 (the FUND convention entered into force seven years later).

The scheme was administered by the Oil Companies Institute for Marine Pollution Compensation Ltd. in Bermuda. Marine Pollution Compensation Services Ltd. (CRISTAL) in London was responsible for its everyday activities.

The both initiatives clearly demonstrated that the oil industry under the environmental pressure was ready to take the responsibility for pollution claims.

Both schemes have been amended several times according to the amendments of the CLC and FUND conventions.

From the beginning the both schemes were developed as the interim measures. However, CLC and FUND schemes became widely accepted and both TOVALOP and CRISTAL have been terminated on 20 February 1997.

¹⁹ Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution , 1969. International Legal Materials. Vol. 8, 1969. P. 497.

²⁰ Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution, 1971. International Legal Materials. Vol. 10, No. 1, 1971. P. 137.

Another proposal from the oil industry sector was a *Pollution Agreement among Tanker Owners (PLATO)* in 1985. This initiative reduced the liability of oil sector trying to put a greater burden on the shipping sector, since the level of the safety of shipping was still not sufficient. The initiative was not supported.

5. Further international documents on oil pollution of the marine environment

5.1. International convention on the prevention of marine pollution by the dumping of wastes or other matter (London Convention), 1972

Further international document on the oil pollution was the International Convention on the Prevention of Marine Pollution by the Dumping of Wastes or Other Matter (London Convention), 1972²¹ with Protocol of 1996²². This document was adopted under the influence of the Stockholm Conference. The adoption of this convention served as a demonstration of the readiness of states to protect marine environment against oil pollution. The Convention deals with ‘dumping’, i.e. the deliberate disposal of wastes and other matter (other than operational discharges) from vessels and aircraft. The provisions of the convention prohibit dumping except for the wastes listed in Annex 1. Dumping of some wastes requires a prior special or general permit (Art. IV). Convention stresses that the capacity of the sea to assimilate wastes and render them harmless, and its ability to regenerate natural resources, are not unlimited.

The effectiveness of the London convention was demonstrated in the incident with the dumping of high-level radioactive waste in the Arctic by the USSR (Stokke, 1998). The dumping was documented in the Yablokov Report in the 1990s. Certain efforts were made to enforce the provisions of this convention through the Russian-Norwegian Environmental Committee and the International Arctic Sea Assessment Program. The behavior of the USSR was condemned during the Consultative Meeting under the London Convention. Further treatment and storage projects for the hazardous wastes for the former countries USSR under the framework of the London Convention.

5.2. International Convention for the prevention of pollution from ships (MARPOL), 1973/1978

The international community was dissatisfied with the OILPOL’54 convention and its environmental and technical requirements. The International Maritime Organization adopted another convention on the prevention of vessel-source pollution on 2 November 1973 - the International Convention for the Prevention of Pollution from Ships (MARPOL). It covered pollution by oil, chemicals, and harmful substances in packaged form, sewage and

²¹ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972. United Nations, Treaty Series. Vol. 1046. P. 120.

²² Protocol of 1996 to the 1972 Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter. 2006 Australian Treaty Series 11.

garbage. The convention aimed to prevent both international and negligent pollution and minimize accidental spills. The Convention represents the compromise between coastal and shipping interests. The Convention introduced new anti-pollution regime and more modern operating requirements.

MARPOL effectively superseded OILPOL'54. However, in its preamble MARPOL Convention recognizes the importance of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954.

Tanker accidents which took place in 1977/78 led the Inter-Governmental Maritime Consultative Organization to convene an International Conference on Tanker Safety and Pollution Prevention (TSPP Conference) in February 1978. This conference adopted MARPOL Protocol of 1978 in order to speed up the adoption of MARPOL convention. This 1978 Protocol is also known as the Tanker Safety and Pollution Protocol.

A few weeks after this conference the VLCC "Amoco Cadiz" spilt 230 000 tons of crude oil (Gold, 1998). This incident stressed the importance and urgency of the oil pollution prevention for the international community.

The combined instrument is referred to as the International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and it entered into force on 2 October 1983 (Annexes I and II). Later further Annexes (III-VI) were adopted to this document.

Annex I with regulations for the prevention of pollution by oil covers prevention of pollution by oil from operational measures as well as from accidental discharges. It also contains the mandatory requirements for new oil tankers to have double hulls and a phase-in schedule for existing tankers on double hulls (Gold, 1998).

Annex II with regulation for the control of pollution by noxious liquid substances - regulates the discharge of noxious substances, and prevents their discharge within 12 miles of the nearest land.

Annex III on prevention of pollution by harmful substances carried by sea in packaged form requires the packaging, labeling and documenting of harmful substances.

Annex IV is devoted to the prevention of pollution by spillage from ships.

Annex V on prevention of pollution by garbage from ships specifies distances from land and manner of disposal of garbage from ships and completely prohibits disposal of plastic.

Annex VI on prevention of air pollution from ships regulates discharge of sulphur oxide and nitrous oxide. The discharge of ozone depleting gases is prohibited.

Since the definition of "ship" in the convention includes vessels of any type operating in the marine environment (hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms, oil-drilling vessels and platforms), all of their discharges of oil into the sea are also covered by the scope of this convention.

The “oil” in the convention is defined as petroleum in any form, including crude oil, fuel oil, sludge, oil refuse and refined products (other than petro-chemicals).

The discharge of oil is completely prohibited in a number of ‘special areas’ which are considered particularly vulnerable to pollution, for example, Mediterranean, Baltic, Black Sea, Red Sea, Gulf and Antarctic. In these areas for technical oceanographic and ecological reasons and the particular character of traffic, special mandatory methods for the prevention of sea pollution by oil are required.

MARPOL laid down the mechanism to check the seaworthiness of a ship by providing a framework for certification of ships with respect to safety and pollution compliance. Powers to inspect, detain and prosecute have been given to flag states and port states (Gautam, 2010).

The convention requires from vessels to have on board Oil Record Book (for tankers and other vessels over a certain tonnage) and Cargo Record Book (for ships carrying noxious substances other than oil). These books have to contain records on on-board operations.

MARPOL introduces a number of certificates to be kept on board: International Oil Pollution Certificate 1973 (IOPC); International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk 1973; International Sewage Pollution Certificate 1973. These certificates could be demanded by surveyors and inspectors in flag and port states. Lack of or improper certification may result in sailing permission being withheld.

The convention introduces a system of communication between states. All relevant information of interest shall be communicated to other state(s) or organizations. For information on accidents and results of investigations reports are required. The International Maritime Organization shall be informed on such issues as reception facilities, inspection/survey authorities, specimens of certifications, texts of laws and regulations, annual reports and statistical index of violations and fines imposed.

MARPOL concerns mainly pollution from vessels. Exploration and other relevant offshore resources development activity is excluded.

The MARPOL Convention became the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. For the first time the whole issue of marine pollution was addressed. This document became an innovation. If earlier anti-pollution conventions had been limited to pollution by oil, MARPOL aimed at all kinds of sea-borne pollution: oil, chemicals, sewage, garbage, and other harmful materials (Rosenne, 1999).

In order to maintain its impact considering the constantly developing technical innovations the convention is being updated by amendments.

This convention serves as a certain “environmental code” for the shipping industry.

5.3. Other relevant documents

One can find certain provisions on marine pollution with oil in other relevant international legal documents.

*Convention for the prevention of marine pollution from land-based sources*²³ done at Paris on 4 June 1974 in Art. 1 puts an obligation on the Contracting Parties to take all possible steps to prevent and combat pollution of the sea from land-based sources. The pollution from land-based sources also covers the maritime pollution from installations under the jurisdiction of the member states to the convention including offshore installations and structures.

*International Convention Relating to the Limitation of the Liability of Owners of Sea-going Ships, 1957*²⁴ was developed by the Comité Maritime International. It includes the principle of limitation of liability. Besides the liability is limited for shipowners in cases of death, personal injury and property damage claims depending on the tonnage of the vessel. This provision of the convention was often overruled by the courts, so the convention was replaced by the *Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC 1976)*²⁵. This document sets general limitation of liability. The limitation-rule does not apply in cases of intentional or reckless personal act or omission. By the limitation rule shipowner, charterer, manager, operator, salvors and insurers are covered.

*Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration of Seabed Mineral Resources, 1977 (CLEE 1977)*²⁶ is a liability convention for offshore oil and gas operations. The convention did not enter into force since there is a developed liability regime for oil industry under the bilateral agreements with the involved coastal states.

The issue of oil pollution offshore drilling and exploration and exploitation activities is also concerned in a voluntary agreement amongst oil companies operating in northwestern Europe the *Offshore Pollution Liability Agreement (OPOL)*²⁷. According to its provisions operators accept strict liability for pollution damage and remedial measures.

In aftermath of the “Exxon Valdez” catastrophe under the pressure of the USA the *International Convention on Oil Pollution Preparedness, Response and Co-Operation (OPRC 1990)*²⁸ was adopted in London on 30 November 1990 addressing the issues of response and preparedness of the international community to the oil spills. By means of this convention the International Maritime Organization developed a framework for the international cooperation in combating major oil pollution incidents.

The convention stresses in its preamble the serious threat posed to the marine environment by oil pollution incidents and reminds that in case of the oil pollution incident, prompt and

²³ Convention for the Prevention of Marine Pollution from Land-Based Sources, 1974.

<http://www.opcw.org/chemical-weapons-convention/related-international-agreements/toxic-chemicals-and-the-environment/marine-pollution-from-land-based-sources/>

²⁴ International Convention relating to the Limitation of the Liability of Owners of Sea-Going Ships, 1957. <http://www.admiraltylawguide.com/conven/limitation1957.html>

²⁵ Convention on Limitation of Liability for Maritime Claims, 1976. <http://www.admiraltylawguide.com/conven/limitation1976.html>

²⁶ Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources, 1977. <http://www.dipublico.com.ar/english/convention-on-civil-liability-for-oil-pollution-damage-resulting-from-exploration-and-exploitation-of-seabed-mineral-resources/>

²⁷ Offshore Pollution Liability Agreement. <http://www.opol.org.uk/agreement.htm>

²⁸ International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990. <http://www.admiraltylawguide.com/conven/oilpolresponse1990.html>

effective action is essential in order to minimize the damage. In Art. 6 Convention puts an obligation upon Party States to establish a national system addressing the oil pollution incidents. The convention recognizes the importance of mutual assistance and international cooperation and establishes the basis for the exchange of information respecting the capabilities of states to respond to oil pollution incidents, the preparation of oil pollution contingency plans, the exchange of reports of incidents of significance which may affect the marine environment or the coastline and related interests of states, as well as research and development respecting means of combating oil pollution in the marine environment. The convention also sets a requirement for vessels and offshore units to have on board oil pollution emergency plans.

This convention is a framework treaty containing only general obligations without concrete ones. However, it should be stressed that a convention provides for legal basis for better cooperation between states in responding to oil pollution incidents (Gold, 1998). Besides the convention granted to the International Maritime Organization a central role in organizing an immediate response to polluting incidents, providing the basis for International Maritime Organization coordination of technical support and financial assistance for governments.

*International Convention on Civil Liability for Bunker Oil Pollution Damage (BUNKER), 2001*²⁹ was adopted to reduce a number of gaps in the CLC regime. This document provides for prompt compensation system for the damage caused by oil spills, when oil was carried as fuel in ships' bunkers. This convention is applied to the territorial seas and exclusive economic zones of the States Parties. The registered owner of the vessel is under the obligation to maintain compulsory insurance cover. A claim for pollution damage could be brought directly against an insurer.

6. Unilateral "Solutions"

6.1. The US Oil Pollution Act, 1990

The international measures for the prevention and protection of the marine environment pollution are often considered to be slow and ineffective. Sometimes it makes the states to adopt the unilateral (or regional) measures for the protection of marine environment. However, it should be stressed that the number of states with a unilateral approach remains modest (Dahm et al., 1989).

As examples one could mention the reaction of the European Commission on the "Erika" oil spill or the Oil Pollution Act (OPA)³⁰ of the US in 1990 after the «Exxon Valdez» grounding on 24 March 1989. The vessel ran into the Bligh Reef in King William Sound in Alaska. 10,8 million gallons (40 000 tons (Brubaker, 1993) of crude oil were spilt. Over 3 400 square kilometres were damaged by oil. Because of this oil spill approximately 250 000 sea birds and 2 000 sea otters died (Graham, 2003).

²⁹ International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001. <http://www.official-documents.gov.uk/document/cm66/6693/6693.asp>

³⁰ U.S. Oil Pollution Act, 1990, Public Law 101-380, 104 U.S. Statutes at Large 484 (1990).

The company “Exxon Mobile” spent over \$2 billion in order to clean up the Prince William Sound area after the Exxon Valdez oil spill (Gennaro, 2004).

It was the largest spill in the US waters. Being dissatisfied with the international community’s environmental protection legislation and common international standards (Pamborides, 1999), the US started its own new policy towards vessels calling at the US ports. Looking at the statistics one should say that after this legislation the volume of spilled oil in the US waters dropped by 70%.

The OPA, promulgated by the US Congress, introduced ahead of the International Maritime Organization double hull standards for oil tankers. This act was called “draconian legislation” (Gold, 1998). It allows to use single-hull tanker vessels of 5 000 gt or more for trade with the US until 2015, depending on their age, only if they were equipped with a double bottom or double sides. The vessels not complying with this requirement could be refused access to US waters after 2010.

This idea concerning the tank of the vessel was not particularly new. As far back as 1971 the amendments to the OILPOL have been elaborated. The proposed rules regulated the tank sizes of tankships in order to reduce the pollution. However, at that time this amendment proposal met a considerable opposition from the ship construction industry. Amendments did not enter into force (Gold, 1998).

The OPA applies to the navigable waters of the US, including the exclusive economic zone up to 200 miles from the baseline. ‘Oil’ is defined broadly to include petroleum, fuel oil, sludge, oil refuse and oily wastes. Hazardous substances are not included.

The OPA introduces liability provisions and establishes a supplemental fund to be used as compensation for losses not covered by polluters.

The OPA’90 allows to the US states to enact their own laws on issues of pollution liability and response.

The behavior of the US was condemned by the international shipping industry, especially tanker operators. In 1992 the International Maritime Organization adopted the amendment to MARPOL requiring mandatory double hulls for new tankers delivered on or after 6 July 1996. Existing tankers shall be fitted with double hulls within 30 years.

The revised measures on the phasing-out of single-hull oil tankers were adopted in December 2003 after incident with the “Prestige” tanker. Regulation 13G of Annex I of MARPOL concerning the final phasing-out dates was revised. The dates were pushed forward from 2007 to 2005 for “pre-MARPOL tankers” and from 2015 to 2010 for MARPOL tankers and smaller tankers. The Condition Assessment Scheme was made applicable to all single-hull tankers older than 14 years (Anianova, 2006).

6.2. Other national legislation on oil pollution prevention

The Arctic Waters Pollution Act of 1970 of Canada was the result of the beginning of the use of the Alaska territory for the transportation of oil. The Canadian law prohibits the dumping of

hazardous wastes from vessels and from the land. The legal act grants to the Governor in Council the possibility to declare a certain area of the Arctic waters a safety zone. For such safety zone it is possible to enact separate regulations concerning the technical requirements to the vessels, their loading. The navigation of vessels through such zones can also be prohibited (Dahm et al., 1989). This act raised the protests of the USA. The attempt of the Canada to lobby the introduction of the environmental safety zones into the UNCLOS during the conference was not successful.

On December 12, 1999 the oil tanker “Erika” broke off the coast of Brittany, France. 14 000 tonnes of oil were spilled damaging 400 km of Atlantic coast. The “Erika” incident accelerated the amendments to MARPOL adopted in April 2001 on the phase-out of single-hull tankers by 2010. The case was brought to the court. The court found guilty the energy company Total, the owner and manager of the tanker, and the Italian classification society “RINA”, of negligence and criminal liability. They were ordered to pay 192 million Euros in damages. The Paris Court of Appeal increased the sum of damages to 200 million Euros.

The incident with the tanker “Prestige” in November 2002 off the coast of Spain when the vessel broke in two was followed by the collision of the Turkish tanker “VICKY” with a sunken carrier off the coast of France and the spill of 70 000 tons of flammable kerosene.

These accidents were reflected in the legislation of the European Union: the transport of heavy fuels have been prohibited in single-hulled tankers in EU waters and a phase-out plan for single-hulled tankers was introduced. For example, in Spain a ban against the transportation of heavy fuel in single hull tankers was introduced.

These unilateral measures concerning the international navigation could seem to be more effective than the international ones. However, they do not consider the interests of the international shipping. Such “competition” between unilateral initiatives and International Maritime Organization standards could be detrimental to international shipping and lead to the “selected ports” approach: the ports with the higher standards could not be simply ignored by some ships, while the ports with weaker port state control would be chosen. These ships with lower standards could threaten the environment in those regions (Anianova, 2006).

7. Regional conventions

As for unilateral or national anti-pollution measures, one could say, that the effective marine environment protection is not possible without the cooperation with other states. However, the regional conventions dealing with pollution of certain seas or waters by oil could be more effective than the global ones with the general requirements. In particular it concerns regional seas and the need to protect their environment and regulate maintenance, exploration and exploitation of their resources (Gelberg, 1979). It is easier to consider the particularities of the regional seas with the help of the coastal states cooperation.

Most regional conventions on protection of particular regional seas include in their texts a common general obligation for the parties to take “appropriate” measures to prevent and control pollution arising from the exploration and exploitation of their seabed mineral resources:

- Art. 8 of the Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention), 1981³¹;
- Art. 4 of the Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (Lima Convention), 1981³²;
- Art. VII of the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (Jeddah Convention), 1982³³;
- Art. 8 of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena de Indias Convention), 1983³⁴;
- Art. 8 of the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention)³⁵;
- Art. 8 of the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region and related Protocols (Nouméa Convention), 1986³⁶;
- Art. 7 of the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention), 1976³⁷ (Gavouneli, 1995).

Most of the regional conventions on the seas protections contain an obligation to take decisive actions to protect their marine environment. Most of these conventions refer to the national legislation and the need to adopt the corresponding measures.

In some of the conventions (the Abidjan, Nairobi, Cartagena and Nouméa Conventions) the requirement on obligatory environmental management is introduced.

Most regional conventions also include cooperation clauses in their texts requiring the proper communication between concerned states and international organizations. Regional conventions contain mostly general rules and principles of environmental protection of the seas, however, the more detailed requirements and standards fail.

The anti-pollution legislation for all regional seas is at present still being developed and formed. There is already a number of regional arrangements for cooperation in combating pollution.

The first convention relating to offshore oil spills was *the 1969 Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil*³⁸. Originally it covered only oil spills

³¹ Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, 1981.

<http://www.unep.org/AbidjanConvention/docs/Abidjan%20Convention%20English.pdf>

³² Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific, 1981.

<http://sedac.ciesin.org/entri/texts/marine.environment.coastal.south.east.pacific.1981.html>

³³ Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, 1982.

<http://www.unep.ch/regionalseas/main/persga/redconv.html>

³⁴ Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 1983.

<http://www.offshore-environment.com/regionalconventions.html>

³⁵ Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 1985.

<http://www.offshore-environment.com/regionalconventions.html>

³⁶ Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, 1986.

<http://www.offshore-environment.com/regionalconventions.html>

³⁷ Convention for the Protection of the Mediterranean Sea Against Pollution, 1976.

http://www.unep.ch/regionalseas/regions/med/t_barcel.htm

emanating from tankers but after the “Ekofisk” disaster in 1977 the parties agreed that it covered spillages from offshore installations as well. It has been replaced as of 1 September 1989 by the 1983 *Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and other Harmful Substances*³⁹.

Mediterranean sea is protected by means of the *Convention for the Protection Of The Mediterranean Sea Against Pollution (Barcelona convention), 1976*. The provisions of this convention contain a non-binding obligation to undertake all possible steps in order to avoid the marine pollution of the Mediterranean sea by means of the seabed exploitation. Another obligation of coastal states concerns the adoption of the national legislation regarding the disposal of the offshore installations not in use in accordance with international guidelines and standards.

*Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 1978*⁴⁰ devotes some of its provisions to the marine pollution from oil development activity.

The 1992 Convention for the Protection or the Marine Environment of the North-East Atlantic (OSPAR) also mentions the issue of marine pollution from offshore installations (Art. 5 of the Annex III). Member states to the convention are obliged to avoid marine pollution caused by the activity on offshore installations. Article 3 of the Annex VI requires to organize a special environment examination before the exploration and exploitation of the sea-bed. The convention requires to apply the standards of the MARPOL 73/78. Besides the convention requires to cover all not used drilling holes and to dispose offshore installations not in use (Art. 8 Annex VI).

*The 1972 Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (the Oslo Dumping Convention)*⁴¹ covers the Northeast Atlantic, Arctic Ocean and North Sea, Baltic and Mediterranean Seas (Art. 2) and sets out strict standards of dumping of industrial wastes and redundant materials at sea from vessels.

It is stressed in the preamble of this Convention that the ecological equilibrium and the legitimate uses of the sea are increasingly threatened by pollution. Art. 1 of the Convention contains the general obligation of the Contracting Parties to take all possible steps to prevent the pollution of the sea by hazardous substances.

The list of the prohibited substances is in the Annex I. Annex II contains the list of substances and materials requiring special care.

*The Convention On The Protection Of The Maritime Environment Of The Baltic Sea Area (Helsinki Convention)*⁴² came into force in 1980. The document concerns the protection of the Baltic

³⁸ Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil, 1969. <http://sedac.ciesin.org/entri/texts/pollution.north.sea.by.oil.1969.html>

³⁹ Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, 1983. Official Journal L188 (16.07.1984). P. 9.

⁴⁰ Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 1978. <http://www.offshore-environment.com/regionalconventions.html>

⁴¹ Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1972. <http://sedac.ciesin.org/entri/texts/marine.pollution.dumping.ships.aircraft.1972.html>

⁴² Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974. <http://www.offshore-environment.com/regionalconventions.html>

Sea. Its member states are all eight Baltic states. The Helsinki Commission regulates discharges and dumping from ships and direct discharges from land, atmospheric inputs, emergency action against oil spills, the use of antifouling paints containing tributyl tin, coordinating monitoring programmes, and seal conservation. Regularly meetings of experts evaluate the scientific evidence for the further recommendations (Clark, 1989).

All decisions of the Helsinki Commission are only recommendations. In 1992 the area of responsibility was extended to include the inland waters landward of the baselines of the Baltic Sea states (Valencia, 2001).

The Helsinki Convention is a legal basis for permanent co-operation of Baltic states, especially through the Helsinki Commission (HELCOM) (Zhu, 2006).

*The Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment*⁴³ was signed in Jeddah in 1982. It has a separate protocol on combating oil pollution. An independent regional intergovernmental organization, the Programme of Environment for the Red Sea and Gulf of Aden (PERSGA), was established to implement the Convention. Egypt, Jordan, the Palestinian Authority, Saudi Arabia, Somalia, Sudan, and Yemen participate in PERSGA, which is headquartered in Jeddah, Saudi Arabia.

For the Red Sea and Gulf of Aden a special Strategic Action Programme was adopted in 1982 and initiated in 1995 in order to develop a regional framework for protection of the environment and sustainable development of coastal and marine resources (Dzurek & Schofield, 2001).

Abidjan Convention for Co-Operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, 1981 applies to the West African Atlantic Ocean. Its provisions concern first of all offshore oil producers in West and Central Africa. A general obligation is placed on contracting parties to prevent and relieve pollution caused by sea dumping and exploitation activities. Such activities should conform with recognized rules and practice in the London Convention, 1972. The Convention stresses in its preamble the need for sustainable, environmentally sound practices and inter-generational justice.

Another industry scheme for the North-Western European waters was adopted in 1975 - the *Offshore Pollution Liability Agreement (OPOL)*. Its parties are oil companies operating in the mentioned area (Gavouneli, 1995).

One could also mention an attempt to develop a convention on liability for damage resulted from seabed pollution. One adopted the 1976 *London Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources*⁴⁴. It is still not in force.

⁴³ Regional Convention for the Conservation of the Red Sea and the Gulf of Aden Environment, 1982. <http://www.offshore-environment.com/regionalconventions.html>

⁴⁴ Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources, 1976. <http://www.dipublico.com.ar/english/convention-on-civil-liability-for-oil-pollution-damage-resulting-from-exploration-and-exploitation-of-seabed-mineral-resources/>

8. Conclusion

Although it was scientifically proved that many chemicals carried at sea are intrinsically far more harmful to the marine environment, the impact of oil upon the ocean and its ecosystem is very dangerous. The spillage of even few tons of oil into sea causes a thin film on the water surface, what is deadly for marine life (Gautam, 2010).

Since the middle of the XX century not only numerous international legislative measures were adopted in the area of oil pollution prevention for the marine environment, but also national laws and regulations. This new legislation reflected not only the development of the legal position on the certain issues, but also the new developments in construction technology like, for example, improved tank stripping pumps, the load-on-top system, and other technological advances. All these preventive measures considerably reduced both vessel-source and offshore oil development pollution.

Beside the main legal documents on oil pollution and marine environment protection, general principles of international environmental law are also applicable to the cases of oil pollution. Such soft concepts as the «precautionary principle» and «polluter pays principle» could be applied (Salter & Ford, 2001). Besides these principles being a substantive element of sustainable development are reflected in conventions on liability and compensation in case of pollution (e.g. CLC, FUND etc.)

In comparison to the oil pollution prevention during the offshore oil development pollution, measures against the vessel-source oil pollution represent the better and more detailed regulated area of marine environmental law (the 1954 Brussels Convention for the Prevention of Pollution of the Sea by Oil (OILPOL) was superseded from 2 October 1983 by the 1978 protocol relating to the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)).

The statistics demonstrates that since the beginning of the international legislation on the oceans protection against the oil pollution there had been considerable improvements in the prevention of ship-generated oil pollution. It is not surprising, since the environmental regulation of the industry is becoming wider in its scope and tougher in its implementation (Salter & Ford, 2001).

Tanker incident at sea especially close to the coasts always raises the significant attention of the publicity (Mehr Sicherheit fuer Tanker, 2003). It should be stressed that 99% of the transported oil (about 1,9 billion tons of oil by some 3 000 tankers) is delivered safely (Gold, 1998). However, even this tiny amount of the spilled oil is sufficient to cause the irreparable damage.

Damage to coastal amenities, beaches, tourist and recreational areas, harbors, offshore installations depends on the geographical location of each spill. For example, a relatively small spill, due to the holing of the tanker “American trader” off the coast of California in 1990, caused serious damage. Claims for damage, clean-up costs and fines amounted to over USD 25 million. In the case of the oil spill of the VLCC “Haven” off Genoa in 1991, the French, Italian and even Spanish Mediterranean coasts were damaged. 1 300 Italian claims alone amounted to GBP 705 million.

There exist very good means and instruments to combat the oil pollution, what was demonstrated by clean-up operations after the "Exxon-Valdez" oil spill. There are four major options of responding to marine spills: mechanical containment and collection; use of chemical dispersants; physical shoreline clean-up; and natural removal, requiring no clean-up action. Other counter-measures that are less frequently used due to their limitations are burning, sinking, gelling and enhanced biodegradation. A decision, which clean-up action shall be applied, depends upon a given situation (Yoder, 1985). However, the best clean-up operations won't recover the existed ecosystem. So let the oil pollution never had happened.

On the other hand, the demands of the maritime transportation system increase. For example, the Red Sea is still one of the world's least ecologically damaged bodies of water. However, the vessel traffic through the Suez Canal and from oil terms along the Red Sea coast increases, what raises the concerns on environment, living resources, and tourism, but the vessels traffic continues to grow.

In such a way, there is still certain resistance of the oil industry and slow development of the anti-pollution legislation. It is quite understandable. For example, the move of the tankers from one-hull to the double hulls is just uneconomical (Mehr Sicherheit fuer Tanker, 2003). The other aspect concerns the quality and technical level of the vessels transporting oil (Mehr Sicherheit fuer Tanker, 2003). Often they are built in the developing countries with low loans and escape of technical innovations. Besides, it is now often discussed that only those ships which are insured by the shipping insurance companies or certified by "classification societies" shall be allowed to sail in international waters (Gautam, 2010).

It can be easily noted that maritime catastrophes of large scale lead to the development of the international law. For example, the "Titanic" (1912), "Torrey Canyon" (1967), "Amoco Cadiz" (1978), "Exxon Valdez" (1987) accidents served as a reason for the adoption of new safety and anti-pollution rules (Rosenne, 1998). As for oil pollution legislation, a series of tanker accidents occurred off the coast of North America in 1976-1977 (Özçayır, 2004) with "Sansinena"; "Oswego Peace"; "Olympic Games"; "Daphne"; "Grand Zenith"; "Barcola; Mary Ann"; "Universe Leader", and several other tankers (although almost all of these disasters were caused by human error or negligence) accelerated adoption of the MARPOL convention and Protocol. The stranding of the "Argo Merchant" (Anianova, 2006), in December 1976 and an oil spill of 27 000 tonnes of the coast of Massachusetts resulted in the Conference of the International Maritime Organization on Tanker Safety and Pollution Prevention in February 1978 under the US lobby and adopted amendments on tanker design and operation incorporated in the Protocol of 1978 to the SOLAS Convention⁴⁵ (Özçayır, 2004). The accident with the "Amoco Cadiz" on March 16, 1978 off the coast of France, which resulted in the oil spill of 221 000 tonnes of crude oil, served as an accelerating factor for the entry into force of the MARPOL convention.

On the basis of the made research a conclusion should be made that hydrocarbons are also the main pollutants from offshore installations used for the exploitation of the natural

⁴⁵ Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, as amended, United Nations, Treaty Series. Vol. 1340. P. 61,62

resources of the seabed (Gavouneli, 1995). Offshore resources are used more and more. 20% of the today's oil production comes from offshore wells.

Although the liability regime for oil rigs is well-established in the private sector and adequate pollution compensation for most incidents is available, one could imagine that the need for a widely accepted international regime, covering all aspects of oil rigs, will become necessary in future.

The subject is at present on the agenda of the International Maritime Organization. There is some opposition to a more comprehensive international treaty from some sectors of the oil industry, especially offshore operators who, at present, are able to conclude simple bilateral agreements with coastal states.

Intentional pollution occurs not too often because any loss of oil and gas goes against the commercial interests of the operator. The cases of accidental pollution from blowouts or tanker spillage and collisions are still numerous. The statistics shows that 75-90% of the oil released at sea comes from discharges of the oily water produced during drilling and the dumping of oil-based drilling muds and chemicals. The reported oil spills represent only about 1% of the oil released into the sea. For example, in the North Sea the prevailing geological formations tend to react with water-based muds. It results in the instability (Gavouneli, 1995), so it is necessary to use for the oil development the highly toxic oil-based muds.

The international legislation regarding the marine environmental protection during exploration and exploitation of seabed mineral resources is subject to surprisingly few international regulations. It is not well developed. Operations in the Area are under the control of the International Seabed Authority according to the rules of the United Nations Convention on the Law of the Sea, 1982, but oil and gas drilling operations are conducted in the continental shelf under the direct control of the coastal state, usually through a state-controlled oil company.

Another critical issue in this topic remains, whether unilateral measures in the environmental protection should be admissible. Although the USA unilaterally introduced their own liability system for the cases of oil pollution, it was clearly demonstrated that this approach could be damaging to the international economy. Effective environmental protection is not possible with the efforts of only one state. However, regional conventions on cooperation in this area could be very effective. Geographical differences between various regions make regional efforts in the marine environmental protection more useful. The pollution problems are better tackled by regional agreements.

As the recent accidents show the established legal mechanisms (the CLC, MARPOL etc.) do not help totally to prevent oil spills in the ocean. The proposals to launch a system with the stronger advance cooperation with the shipping industry still remain only proposals. The incidents with "Prestige" and "VICKY" oil spills also demonstrated the inability of the existing liability system to compensate the victims of the oil pollution. They are also criticized for low liability limits (Gennaro, 2004).

In this research it was demonstrated by means of the overview of the existing international legal documents, that there exists a regime for oil pollution liability and compensation with

more or less adequate coverage for the most serious incidents. One can make a conclusion that the industry is well controlled by legislation (Salter & Ford, 2001). But the question arises whether one can foresee everything in advance and to prevent it?

It was scientifically confirmed that the marine environment may eventually recover from very serious oil pollution incidents. However, it does not mean that there is no shorter-term damage to the marine environment, coasts, people and property. Besides we should think not only about the today's interests, but consider "the interests of future generations" (Birnie & Boyle, 1992).

One shouldn't forget that in such cases as oil pollution prevention on the level of the international legislation the most important aspect is a quick response in its time (Anianova, 2006).

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