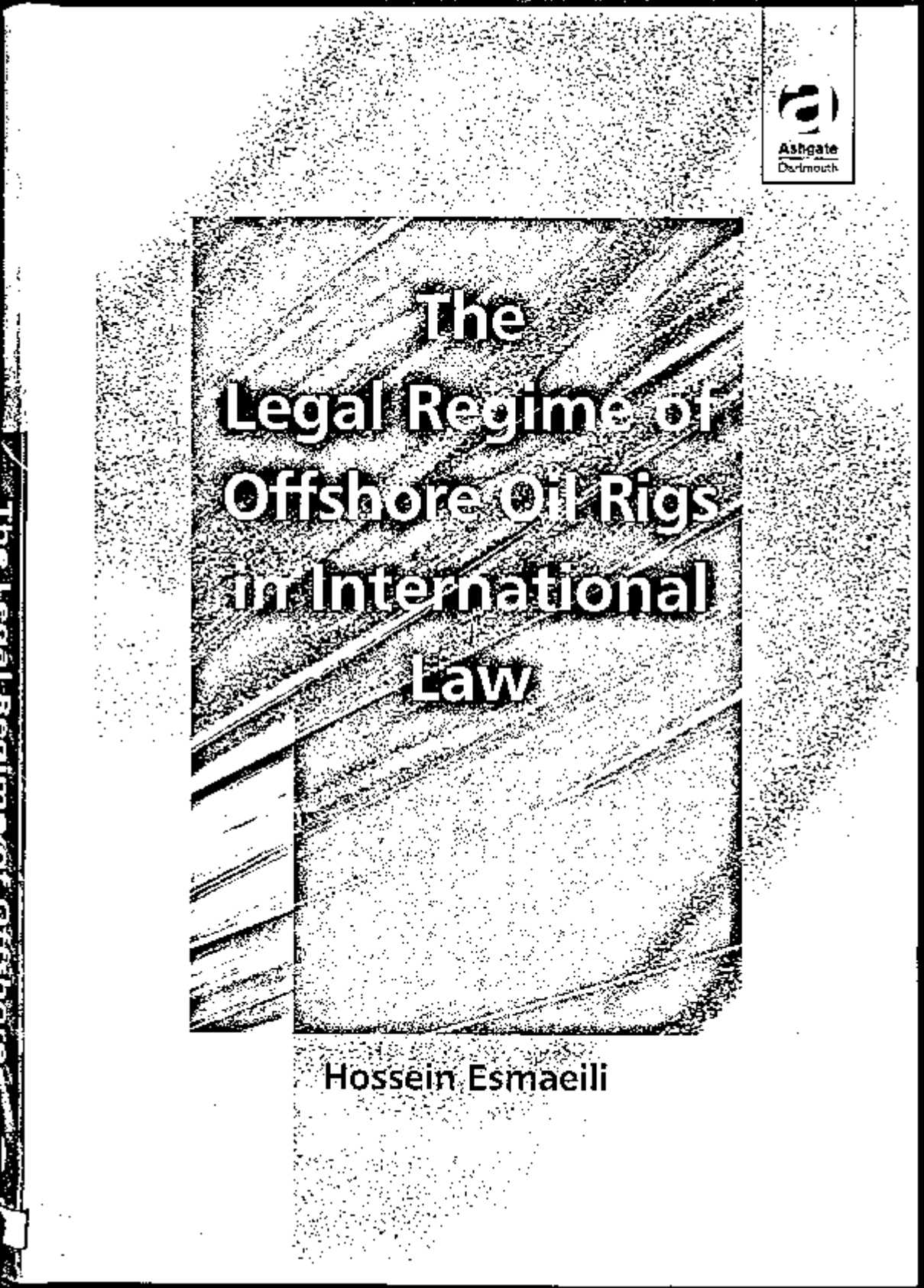
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The Legal Regime of Offshore Oil Rigs in International Law
Hossein Esmaeili

THE LEGAL REGIME OF OFFSHORE OIL RIGS IN INTERNATIONAL LAW

The Legal Regime of Offshore Oil Rigs in International Law

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Preface

This book investigates the international legal issues relating to the establishment, the operation and the decommissioning of offshore oil rigs in different parts of the sea. It examines the legal status of offshore oil rigs, the issue of jurisdiction in relation to, or on board, oil rigs and the protection of such installations under international law. It also examines environmental issues, including the decommissioning of oil platforms, and the conflict between the establishment and the use of offshore oil rigs and other uses of the sea.

The investigation proceeds by examining the relevant sections of all international conventions which have provisions relating to offshore oil production and international and national cases. It also investigates national legislation and the practice of states in relation to international legal aspects of offshore oil installations in order to gain an understanding of the legal regime for these installations and to formulate and suggest an international law framework based on that understanding.

Generally, the significance of the findings of this book is that under international law, offshore oil installations, in spite of their increasing importance, are subject to fragmentary and vague legal rules.

This book is based on my PhD thesis which was approved by the University of New South Wales, Sydney, Australia in 1999.

I would like to express my deep appreciation to Professor Ivan Shearer, Challis Professor of International Law at the University of Sydney, for his excellent supervision and continuing support. Aware of my general interest in the area of natural resources and the law of the sea, he suggested the specific subject of the study.

Professor Martin Tsamenyi, University of Wollongong, Rosemary Rayfuse, University of New South Wales, were involved in my supervision. Professor Jon Van Dyke, University of Hawaii, Dr Michael White QC, University of Queensland and Dr Stuart Kaye, University of Tasmania examined my thesis. I am thankful to all of them.

I express my appreciation to the academic and administrative staff members of the Faculty of Law, the University of New South Wales, particularly, Professor Paul Redmond, Ian Cameron, Susan Armstrong, Kerry Daley, Professor George Winterton, Associate Professor David Dixon, Dr Stephen Hall and Dr Jeremy Gans.

Special thanks are due to my colleagues at the School of Law, University of New England, Lloyd's Register House (UK), Lloyd's Register (Sydney),

Research Management of Health and Safety Executive, Offshore Safety Division (UK), School of Petroleum Engineering, University of New South Wales, Quentin D'A Whitfield, Director of Infield System Ltd (London), and Ministry of Sciences, Research and Technology (Iran).

An article based on Chapter three of this book was published in *Revue Hellénique de Droit International* (1997). I am thankful to Hellenic Institute of International and Foreign Law in Athens (particularly Dr Maria Gavouneli) for their permission to include Chapter three in the book. Also an article based on Chapter five was published in two parts in the *Australian Mining and Petroleum Law Journal* (1999-2000). I thank the Australian Mining and Petroleum Law Association in Melbourne for their permission to include Chapter five.

While, I have been assisted by all the people and institutions mentioned, I am responsible for the opinions expressed and any errors which may abide in the work.

I dedicate this book to my wife, Shokoufeh and my daughter, Nikki.

H. Esmaeili
March 2001

Foreword

When President Kennedy of the United States met with Premier Khrushchev of the Soviet Union at the American Embassy in Vienna in 1961, he is said to have greeted the Russian leader with the words: "Welcome for the first time to American soil". Of course this should be taken to be a jocular figure of speech. Diplomatic premises have privileges and immunities which guard them against intrusion from the authorities of the host state; but embassies are not, in law, extraterritorial. A similar, but rather more seriously intended, figure of speech was once used to describe ships: as "floating islands" of the national territory of the flag they flew. That theory has long been discredited in the literature and in state practice. The Permanent Court of International Justice, in the case of the *S.S. Lotus* (1927), came dangerously close to resurrecting it when it referred to the Turkish vessel - the victim of a collision caused by a French vessel - as "a place assimilated to Turkish territory". However, for the purposes of validating criminal jurisdiction over the collision in the Turkish courts, that remark was not vital to the Court's reasoning of the result of the case.

Are oil rigs "vessels", or "places assimilated to territory"? Are these expressions adequate or appropriate in approaching legal questions concerning oil rigs? These questions are further complicated by the ownership of some oil rigs by multinational consortia and by the registration of their operating bodies in places of convenience rather than necessarily of their effective nationality. Not only does public international law come into play; national laws and the conflict of laws (private international law) also have a role.

The United Nations Convention on the Law of the Sea, 1982, has been so widely ratified and applied by states in their practice that its normative provisions are now regarded as having given rise to a parallel body of customary international law binding even on non-parties to that Convention. The Convention (and customary international law) provide a framework for the emergence of a legal regime governing oil rigs and other offshore installations but not a detailed code. Some details have been provided by the specialized conventions, especially in the field of the protection and preservation of the marine environment. Yet not all questions have been answered.

I had the privilege and the pleasure of acting as a supervisor of Dr. Hossein Esmaeili's research into these issues when he was a doctoral candidate in the Faculty of Law of the University of New South Wales, Sydney, Australia.

I now have the privilege and pleasure of introducing the author's work to the general public. It will, I am sure, be consulted with profit by national and international legal practitioners, oil companies, governments, organizations, and legal scholars.

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Challis Professor of International Law,
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February 2001

Abbreviations

ABS	American Bureau of Shipping
AC	Appeal Cases
AIP	Australian Institute of Petroleum
AJIL	American Journal of International Law
ALJ	Australian Law Journal
AMC	American Maritime Cases
AMPLA	Australian Mining and Petroleum Law Associations
AMPLJ	Australian Mining and Petroleum Law Journal
AMSA	Australian Maritime Safety Authority
APPEA	Australian Petroleum Exploration Association
AYBIL	African Year Book International Law
BPEO	Best Practicable Environmental Option
BYIL	British Yearbook of International Law
Cambridge LJ	Cambridge Law Journal
Canadian YBIL	Canadian Year Book International Law
CCAMLR	Convention on Conservation of Antarctic Marine Living Resources
CMI	Comité Maritime International
Columbia J Transna'l L	Columbia Journal of Transnational Law
CSDU	Column Stabilised Drilling Unit
DTI	Department of Trade and Industry (UK)
EEZ	Exclusive Economic Zone
FCA	Federal Code Annotated (USA)
FOEI	Friends of the Earth International
GCC	Gulf Cooperation Council
GESAMP	Group of Expert on the Scientific Aspects of Maritime Pollution
Harvard ILJ	Harvard International Law Journal
Hastings ICLR	Hastings International Comparative Law Review
ICJ Reports	International Court of Justice Reports
ICJ	International Court of Justice
ICLQ	International and Comparative Law Quarterly

ICNT	Informal Composite Negotiating Text
IJ Estuarine and Coastal L	International Journal of Estuarine and Coastal Law
IJIL	Indian Journal of International Law
IJMCL	International Journal of Marine and Coastal Law
ILC	(United Nations) International Law Commission
ILM	International Legal Materials
ILO	(United Nations) International Labour Organization
ILR	International Law Reports
IMCO	(United Nations) Intergovernmental Maritime Consultative Organization – Renamed IMO in 1982
IMO	International Maritime Organization
INTLAW	International Law (Lexis)
INTLR	International Law Reviews (Lexis)
ISNT	Informal Single Negotiating Text
JEL	Journal of Environmental Law
JENRL	Journal of Energy and Natural Resources Law
JMLC	Journal of Maritime Law and Commerce
LLLR	Lloyd's List Law Reports
LDC	London Dumping Convention, 1972
LJIL	Leiden Journal of International Law
LL/GDS	Land Locked and Geographically Disadvantages States
LMCQ	Lloyds Maritime and Commercial Law Quarterly
LMIS	Lloyd's Maritime Information Service
LNTS	League of Nations Treaties Series
LOSC	United Nations Convention on the Law of the Sea, 1982
LQR	Law Quarterly Review
LRS	Lloyd's Register of Shipping
LT	Law Times Reports
MAIB	Marine Accident Investigation Branch
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973
Martens	Nouveau Recueil Général de Traités, Series 3 (1907-45)

Melbourne ULR	Melbourne University Law Review
MJIL	Michigan Journal of International Law
MODU	Mobile Offshore Drilling Units
NILR	Netherlands International Law Review
NYCJIL & Policy	New York University Journal of International Law and Policy
OBM	Oil Based Mud
ODAS	Ocean Data Acquisition Systems and Aids and Devices
ODC	Oslo Dumping Convention, 1972
ODIL	Ocean Development and International Law
OGLTR	Oil & Gas Law & Taxation Review
OPEC	Organization of Petroleum Exporting Countries
OPOL	Offshore Pollution Liability Agreement
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation, 1991
Or. L Rev	Oregon Law Review
OSPAR	Convention for the Protection of the Marine Environment of the North East Atlantic, 1992
OTC	Offshore Technology Conference
PCIJ	Permanent Court of International Justice
Platzoder	Platzoder, R, (ed), Third United Nations Conference on the Law of the Sea: Documents, Oceana Publications (1982-1988) Vols I-XVIII
QB	Law Reports: Queen's Bench (UK)
RHDI	Revue Hellenique de Droit International
RIAA	(United Nations) Reports of International Arbitral Awards
RIRI	Revue Iranienne des Relations Internationnales
RSNT	Revised Single Negotiating Text
San Diego LR	San Diego Law Review
SDR	Special Drawing Rights
SLR	Sydney Law Review
Suffolk Transna'l LJ	Suffolk Transnational Law Journal
Tul. LR	Tulane Law Review
U Dayton LR	University of Dayton Law Review
UCLAJEL & Policy	University of California Los Angeles Journal of Environmental Law and Policy
UKCS	United Kingdom Continental Shelf

UKOOA	United Kingdom Offshore Operation Association
UKTS	United Kingdom Treaty Series
UNCLOS I	First United Nations Conference on the Law of the Sea, 1958
UNCLOS II	Second United Nations Conference on the Law of the Sea, 1960
UNCLOS III	Third United Nations Conference on the Law of the Sea, 1973-82
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environmental Program
University TLR	University of Tasmania Law Review
UNLS	United Nations Legislative Series
UNTS	United Nations Treaty Series
US	United States Supreme Court Reports
UST	United States Treaties and other International Agreements
Vanderbilt JTL	Vanderbilt Journal of Transnational Law
VJIL	Virginia Journal of International Law
WBM	Water Based Mud
Yale JWPO	Yale Journal of World Public Order
YBILC	Year Book of International Law Commission

1 Introduction

1.1 The General Purpose of the Book

The significant increase in the level of offshore oil production in recent years requires advanced and complicated technology. The modern technology for oil exploration and production is marching forward into the 21st century.[1] There are now more than 8000 offshore oil platforms and 700 exploration drilling rigs in over 5000 offshore field developments in more than 100 countries.[2] The establishment of various types of installations for the purpose of the exploration and exploitation of oil and gas from offshore resources has given rise to a series of legal issues in recent years. In the last decade of the 20th century two cases relating to offshore oil rigs were presented to the International Court of Justice: the *Case Concerning Passage Through the Great Belt*[3] and the *Oil Platforms Case*.[4]

The advance of modern technology has created a number of legal issues for which international law must now provide solutions. This book investigates and examines the international legal issues relating to the establishment and use of offshore oil rigs in different parts of the sea and provides proposals for solutions to the problems.

This book reviews and examines the relevant portions of all international treaties, cases and the national law and practice of States in relation to international aspects of offshore oil rigs, in order to gain an understanding of the legal regime surrounding oil rigs and to formulate an international law framework based on that understanding.

This monograph intends to investigate the issues under consideration: first, by finding and analysing provisions of international law pertaining to all aspects of oil rigs using raw data, including recent and early national and international cases; second, by examination of international treaties and their *travaux preparatoires;* third, by studying and analysing the national legislation of major offshore oil and gas producers and defining a framework of customary international law; finally, by using original information obtained from UN bodies, certain international entities and the petroleum industries of certain major offshore oil producers.

1.2 The Current State of Knowledge and Existing Literature

There is no comprehensive international treaty or regional agreement on

this subject.[5] Even the 1982 Law of the Sea Convention (LOSC), which is one of the most complex treaties in the entire history of international law, does not cover all legal aspects concerning oil installations. This is partly because in 1982 offshore oil production and the number of oil rigs operating offshore was lower than it is today.

The existing literature also does not comprehensively cover the subject, or covers only certain parts of the legal aspects pertaining to oil installations, mainly in relation to certain offshore areas such as the North Sea and the Gulf of Mexico.

An occasional paper by AHA Soons, entitled *'Artificial Islands and Installations in International Law'*[6] was the first significant paper which appeared on the subject. This paper discusses a number of the international legal aspects involved in the construction and operation of offshore facilities. However, it dealt generally with fixed structures, for any purpose, erected at sea. The permissibility of the construction of artificial islands was the main issue covered by this paper.

In 1991 SE Honein produced a very similar work which was an updated version of Soons' paper.[7] This book, however, expanded the coverage of subjects in relation to artificial islands and installations. The object of the book was to deal with certain legal aspects relevant to immovable artificial islands and installations at sea, such as state authorisation in relation to the construction of artificial islands, the protection of the marine environment and offshore safety. The book broadly covered all types of offshore installations erected for any purpose. Honeins' discussion is broader than Soons' and covers general law of the sea principles. However, it lacks a detailed discussion in relation to a number of legal issues concerning offshore installations such as the definition of artificial islands and installations and the conflicts engendered by the use of different installations at sea.

N Papadakis' *International Legal Regime of Artificial Islands*[8] covers certain legal aspects of artificial islands such as the jurisdiction and the juridical status of artificial islands. The book only discusses installations for the purpose of the exploration and exploitation of natural resources in one chapter. The remainder of the book deals with other types of offshore installations such as Ocean Data Acquisition Systems and Aids and Devices (ODAS). More than one third of the book discusses the ODAS. Installations for the purpose of the exploration and exploitation of the natural resources of the sea are discussed under the 1958 Continental Shelf Convention. This book is a valuable reference on the issue of artificial islands and offshore installations. Indeed, Papadakis' work is the best available study pertaining to the legal regime of artificial islands. However, having been written more than three decades ago it does not cover the recent developments relating to offshore installations.

M Summerskills' book on oil rigs[9] covers a number of aspects concerning the law and insurance with respect to mobile offshore oil rigs. One chapter of the book analyses in detail the question as to whether or not mobile drilling units, mainly under British law, are ships. It then discusses the nature of the 'hull insurance of a drilling unit' with specific reference to the London Drilling Barge Form and the Norwegian Hull Form. Drilling contracts, liabilities and the cost of control by the operator are also discussed. Summerskill has researched a complex body of English and Scottish case law in relation to the definition of the word 'ship'. His main conclusion is that under English Law drilling units for some purposes may be considered ships.

A recent book on the subject is *Pollution from Offshore Installations* by Maria Gavouneli, which covers environmental issues relating to offshore installations.[10] Gavouneli raises many of the basic legal questions relating to pollution from offshore installations and discusses them in detail. However, this examination takes place within the wider framework of international environmental law which occupies a large portion of the book. Some of the most important environmental law aspects of offshore installations are the subject of only a brief examination.

Manuals on the law of the sea devote only a few paragraphs, or a few pages, to a discussion of oil rigs, and then only in relation to certain legal aspects of these installations.[11]

There are a number of articles on this subject, concerned primarily with all types of offshore installations. These articles cover only some aspects of the legal issues of the oil rigs such as the removal of offshore installations. These are discussed in the pertinent chapters below.

Generally, in relation to the main theme of this book, the international law framework for the production of oil from oil rigs and the applicable law, either national or international, is almost completely lacking in relevant updated articles and materials.

1.3 The Issues Under Consideration

The issues under consideration have been carefully chosen based on their practical importance. A number of these issues, such as the legal status of oil rigs and the offshore disposal of oil platforms, have been the subject of dispute in recent years. Other issues, such as the jurisdictional questions concerning oil rigs located on the high seas beyond the limits of national jurisdiction, need to be analysed because these questions are very likely to give rise to future legal disputes between States. In other areas, such as the protection of oil rigs and conflicts between offshore oil production and other uses of the sea, there is a conspicuous lack of up to date and compelling literature. In general, nearly all the significant international legal issues relating to the establishment and operation of offshore oil rigs are examined

in the course of this study.

The legal status of offshore oil rigs has become a fundamental issue in international law. The first question is whether any type of oil rig may be considered to be a ship under both international and national law. If oil rigs are classified as ships, a number of international law rules and provisions in relation to ships, such as the law of flag, the arrest of ships, collision, pollution and salvage, would be applicable to oil rigs as well.

The second question which arises is whether offshore oil rigs can be classified in any other way. Historically, oil rigs, all types of artificial islands, offshore installations for economic purposes and structures for all other purposes have been considered, or treated, as one category. The LOSC legally treats artificial islands, oil rigs, and offshore installations for the purpose of the exploration and exploitation of all kinds of natural resources and for other economic purposes in the same way.[12] Some writers, however, draw a distinction between artificial islands and offshore installations. However, they have demonstrated that the main function of an offshore installation is its employment in the exploration for and exploitation of oil and gas.[13] With the advancement of technology and the increase in the construction of artificial islands, oil rigs and all types of offshore installations, these objects must be clearly defined and classified. Furthermore, these objects, due to their functional differences, may each raise different and distinct international legal issues with respect to, for example, jurisdiction, pollution and other matters. These issues are investigated in Chapter 3.

After examining the above mentioned issues and proposing a legal framework for the definition of oil rigs, the issue of jurisdiction is investigated, based on the definition proposed. Jurisdiction in relation to oil rigs and any action taken on board oil rigs are significant international issues. The rights of the coastal State and the non coastal State to construct offshore oil rigs in different parts of the sea has been an issue in international law for nearly half a century. The evaluation of concepts such as the continental shelf and the EEZ, since the 1940s, has extended the rights of the coastal State to construct oil rigs offshore. There are many unresolved legal issues with respect to the rights of the coastal State to construct oil installations either in waters under their jurisdiction, up to 200 nautical miles, and the rights of coastal State and other States on the high seas, beyond the limits of national jurisdiction. The main legal issues in relation to the rights of coastal States to establish oil rigs in different parts of the sea arise from the scope of the coastal States' rights to construct oil installations in relation to the interests of other States. Jurisdictional issues also arise with respect to the applicable law in relation to criminal matters and civil disputes. A further issue is the scope of the coastal States' jurisdiction with respect to customs, fiscal matters, health, safety and immigration. These issues are investigated in Chapter 4.

Based on this background the issues relating to the protection of installations by States, which are issues complementary to jurisdiction, are dealt with in Chapter 5. The issue of the protection of oil rigs is investigated using the provisions of the LOSC, the relevant International Maritime Organisation (IMO) Resolutions and the 1988 Rome Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf. Oil rigs are attractive targets for military and terrorist attacks. Huge oil rigs constructed on the EEZ and the high seas on which up to 500 people reside are open to terrorist attacks. Further, the collision of ships with oil rigs is a common occurrence. The 500 metre safety zone around oil rigs permitted by the LOSC has not significantly prevented such incidents. As a result the IMO has adopted a number of resolutions for the protection and safety of oil installations. The problem with the IMO Resolutions however is that they are not legally binding upon States. The relevant national legislation is very general and hence, insufficient. These issues are analysed in Chapter 5.

After investigating the jurisdictional issues, Chapter 6 investigates environmental issues in relation to offshore oil rigs. Drilling activities and offshore petroleum production create the risk of pollution. The use of drilling mud, drill cuttings, produced waters, and the dumping of wastes from platforms pollute the marine environment. Although it accounts for only a small source of marine pollution, the issue is becoming internationally important in light of the increase in offshore oil production and the occurrence of incidents. The main problem is that the issue of pollution from offshore installations has not been the subject of a comprehensive international or regional treaty. Consequently, matters arising from marine pollution have only been sporadically mentioned in international treaties and national legislation. All legal aspects with respect to pollution arising from the use and operation of offshore oil rigs are covered in Chapter 6. However, another environmental issue, the offshore disposals of oil rigs, is discussed separately in Chapter 7 due to its importance.

The decommissioning of offshore oil rigs has become an international issue, particularly since 1995. The dispute over this issue began in the early 1970s when the rate of offshore oil production increased and many installations began to reach the end of their economic lives. The issue became more complicated in 1982, when the LOSC, unlike the 1958 Geneva Convention on the Continental Shelf, permitted partial removal of oil rigs. The inconsistency between two of the most important international treaties on the law of the sea, the lack of a comprehensive treaty, the increase of public attention and the high cost of total removal have led to inconsistent practices by different States in different regions.

The final issue under consideration is the conflict between oil rigs and other uses of the sea. The main problem which occurs is how to resolve conflict which may arise between the operations of oil rigs and other lawful activities at sea, such as fishing, navigation, the laying of pipelines and cables and the recreational use of the sea. The position of international law in respect of this conflict of interest is far from clear. There will be further conflict in the future as all these activities are increasing significantly.

1.4 The Scope and Perspective of the Book

This book covers the legal issues related to offshore oil rigs from the perspective of public international law. Therefore, this study does not extend to other issues concerning oil rigs, such as insurance, drilling contracts, employment, bills of sale and mortgages, except if these matters are related to any legal aspect of these installations under international law.

Second, the book discusses the international legal issues surrounding offshore oil rigs only. For the purpose of this study oil rigs, as defined in Chapter 3, is taken to mean offshore installations for the purpose of the exploration and exploitation of oil and gas. Although technically the term rigs refers to exploration drilling facilities for the purpose of this book 'oil rigs' encompasses all types of oil installations including mobile, fixed, drilling, production and storage structures. Therefore, all kinds of artificial islands, industrial installations, power installations, military structures and scientific research installations are excluded from the discussion in this study. Nor does the study extend to offshore installations and structures for the purpose of the exploration and exploitation of the natural resources of the sea other than oil and gas and for other economic purposes. Thus, reference to some of these installations may be given in cases where the arguments in the study relate to legal issues about oil rigs and as such require a referral.

Third, the study does not make any major references to the law of a specific country. However, the analysis of State practice is an important part of the discussions in the thesis. In nearly all chapters adequate mention will be made to the law and practice of relevant countries.

Finally, the book focuses only on the international legal issues pertaining to offshore oil rigs. It examines the legal issues of offshore oil rigs in detail and analyses them in depth. However, legal matters which are not directly relevant to offshore oil rigs are not dealt with in detail, rather they are mentioned briefly or referred to in footnotes whenever required.

1.5 Outline and Structure of the Book

1.5.1 Chapter One: Introduction

This is an introductory chapter, setting out the current status of the academic study of the international legal regime of offshore oil installations, research methodology, the issues under consideration, the scope and perspective of the book and its outline and structure.

1.5.2 Chapter Two: Types and Physical Nature of Offshore Oil Rigs

This chapter deals with technical aspects and statistics relating to the latest developments in offshore oil production. It also describes the types, physical nature and latest technological developments concerning the construction of offshore oil rigs. The physical nature of oil rigs is important in determining the legal status of oil rigs (Chapter 3), the protection of oil platforms (Chapter 4) and the decommissioning of disused rigs (Chapter 7).

The chapter concludes that the legal issues arising from the operation of mobile oil rigs are mainly concerned with their legal status and the question of jurisdiction over them and on board. The main legal issues arising from fixed oil rigs are those related to the jurisdiction on board, their removal, protection and the safety zones around them.

1.5.3 Chapter Three: The Legal Status of Oil Rigs

This chapter explores different approaches concerning the legal status of offshore oil rigs. First, it discusses whether or not oil rigs are considered ships in international law and national law. Then, the legal status of artificial islands under the LOSC and the question as to whether oil rigs may be incorporated into the category of artificial islands will be examined. Finally, the position of the LOSC in relation to the status of oil rigs is discussed. At the end, the chapter proposes a preferred approach.

1.5.4 Chapter Four: Jurisdiction of States in Relation to Oil Rigs

The rights and obligations of States in relation to the construction of oil rigs in different maritime zones, including the high seas, will be discussed here. The jurisdiction of the coastal State with regard to customs, fiscal matters, health, safety and immigration laws and regulations will also be examined.

There are usually a number of people on oil rigs who may become involved in certain crimes such as assault, theft or homicide. In addition, certain activities, such as design and engineering work, can lead to property loss as well as personal injury and the death of employees. This chapter will

examine the competent laws in relation to the criminal and civil jurisdiction on board oil rigs in different maritime zones including on the high seas. It concludes that although the LOSC deals with the issue of jurisdiction in an efficient way some unresolved questions remain.

1.5.5 Chapter Five: Protection of Oil Installations

This chapter examines the legal issues relating to the protection of oil rigs against the acts of other users of the sea, such as collision and terrorist attacks. The chapter firstly canvasses the rights of the coastal States to regulate innocent passage in order to protect their offshore installations. An examination of the LOSCs' provisions with respect to the safety zones around offshore installations is the main part of this chapter. It also examines the 1988 Rome Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf and the IMO Resolutions in relation to the safety and protection of offshore oil rigs. Finally, State practice in relation to the protection of offshore oil rigs will be discussed. The chapter concludes, among other things, that the measures currently in existence are not sufficient to protect oil rigs.

1.5.6 Chapter Six: Environmental Issues in Relation to Offshore Oil Rigs

This chapter reviews and examines the international law provisions which are directly related to the environmental issues of offshore oil and gas production from oil rigs. It first explains the sources of marine pollution relating to the exploration and exploitation of oil and gas from offshore oil rigs. The chapter then examines the existing international law regulations which relate to the issue of pollution from oil installations. The principles of international customary law, worldwide and regional conventions, and international State responsibility which are related to the issue of marine pollution from oil rigs will then be examined. Finally, civil liability relating to the issue of pollution resulting from the exploration and production of offshore oil will be discussed. Although, pollution from the establishment and use of oil rigs is but one component of marine pollution, this chapter covers only the international law provisions which relate directly to the issue of offshore oil and gas production from oil rigs. The chapter comes to the conclusion that various treaties and national legislation cover the issue of pollution from oil installations. That is to say it is not the subject of a unified international legal regime.

1.5.7 Chapter Seven: The Decommissioning of Offshore Oil Rigs

In this chapter the process of deciding how to end the operation of an offshore oil well and removing and disposing of the installation will be examined from the international legal perspective. The inconsistency between the 1958 Geneva Convention on the Continental Shelf, which provides for the total removal of offshore installations, and the 1982 LOSC which requires only the partial removal of oil platforms, will be examined. The chapter also discusses the 1972 London Convention and its 1996 Protocol. Certain important regional treaties, such as the 1992 OSPAR Convention, the 1988 Kuwait Protocol and the 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region will be analysed as well. Finally, the practice of a number of major offshore oil producing countries will be discussed. The concluding remarks concern the ambiguity of the position in international law as regards the decommissioning of offshore oil rigs.

1.5.8 Chapter Eight: The Conflict Between the Use of Oil Rigs, Navigation and Other Uses of the Sea

The question of the interference of offshore oil activities with the traditional uses of the sea, navigation, and other marine resources such as fisheries will be examined primarily on the basis of the 1958 Continental Shelf Convention, the 1982 LOSC and State practice.

First the chapter examines the conflict between the establishment and use of offshore oil installations and fishing in different parts of the sea. It then discusses the conflict between the traditional freedom of navigation and the right of the coastal State with respect to the exploration and exploitation of the natural resources of the sea within its national jurisdiction. The conflict between oil rigs and the laying of cables and pipelines is also analysed. The conflict between offshore oil production and other activities at sea such as the erection of artificial islands and structures for purposes other than the exploration and exploitation of oil and gas, scientific research installations, recreational activities and dredging will be discussed in the end. The chapter then concludes that international law does not properly address the issue of conflict between offshore oil production and other uses of the sea.

1.5.9 Chapter Nine: Conclusions

The concluding chapter summarises the findings, makes recommendations for the solution of the issues examined in the book and recommends the conclusion of a comprehensive international treaty to cover all international

legal issues in relation to the establishment, use and removal of offshore oil rigs.

Notes

1. Scientific American, March 1998.
2. See Infield Offshore Oil and Gas Field Development Business Intelligence Homepage (2001) (viewed February 2001) at: *http://www.Infield.com/* See also the British Petroleum website (2001) at (viewed February 2001): *http://www.bp.com/worldenergy/downloads/index.htm*.
3. *Passage Through the Great Belt (Finland v Denmark)*, 1991 ICJ, 94 ILR (1994) 446. For a discussion of this case see Chapter Three below.
4. The *Oil Platform Case (Iran v USA)* ICJ Reports (1996). For more information about this case see Chapter 5 below. The case is still to be heard. If the case is not settled out of court the ICJ will look at many legal issues relating to offshore oil installations from an international law perspective.
5. A draft international convention on legal issues relating to offshore mobile craft was adopted by the Comité Maritime International in September 1977. This draft convention is discussed in Chapter Three below. However, it is notable that at the 1994 CMI Conference in Sydney a Working Group and a Committee were established for the further study and development of an international convention on offshore oil rigs and related matters (M White, 'Offshore Craft and Structures: a Proposed International Convention' (1999) 18 *AMPLJ* 21 at 22).
6. AHA Soons, *Artificial Islands and Installations in International Law* (1974), Occasional Paper Series, Law of the Sea Institute, University of Rhode Island, Occasional Paper No 22.
7. SE Honein, *The International Law Relating to Offshore Installations and Artificial Islands*, Lloyds' of London Press Ltd (1991).
8. N Papadakis, *The International Legal Regimes of Artificial Islands*, Sijthoff (1977).
9. M Summerskill, *Oil Rigs: Law and Insurance*, Stevens and Sons (1979).
10. M Gavouneli, *Pollution from Offshore Installations*, Graham & Trotman/Martinus Nijhoff (1995).
11. See DP O'Connell, *The International Law of the Sea*, Clarendon Press (IA Shearer 1982 and 1984) Vols I and II, pp 503-504, 748, 890, 905-907 and 1087; CJ Colombos, *The International Law of the Sea*, Longman (1967) pp 125-126; G Gidel, *Le Droit International Public de La Mer*, Topos Verlag Vaduz (1981) vol I, pp 66-68; RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) pp 50-51, 167-168, and 203; ED Brown, *The International Law of the Sea*, Dartmouth (1994) vol I, pp 234-235, 259-261, 263-272.
12. LOSC, Arts 56 and 60.
13. M Gavouneli, Note *supra* p 9.

2 Types and Physical Nature of Offshore Oil Rigs

2.1 Introduction

The inclusion of a chapter describing the physical nature and types of offshore oil rigs may seem irrelevant in a legal text. This is purely a technical chapter without any legal analysis. However, without a general understanding of the physical nature, and in particular the types of oil rigs, legal examination of their status, and an analysis of the respective legal issues is very difficult. Since oil platforms are constructed in different shapes, their physical nature is a principal factor in the analysis of the related legal issues. In the *Case Concerning Passage Through the Great Belt*[1] both sides, in their Memorials and Counter Memorials, provided the court with pictures of the different kinds of oil rigs in order to move their legal argument forward.

The LOSC uses various expressions to describe artificial islands, installations and structures.[2] There are various kinds of artificial islands and offshore installations, each used for different purposes. Sea cities,[3] industrial installations,[4] installations for the purpose of fisheries and fish farming,[5] power installations,[6] transportation terminals,[7] communication stations,[8] military stations,[9] installations for the purpose of scientific research,[10] installations for the purpose of exploration of non natural resources and installations for the purpose of exploration and exploitation of natural resources of the sea are the main types of artificial islands and offshore installations. Oil rigs are part of offshore installations for the purpose of exploration and exploitation of natural resources of the sea.

2.2 Early Oil Rig History

The history of the offshore oil industry goes back to the 1890s, when it began off the coast of California.[11] As early as 1909 or 1910, wells were being drilled in Ferry Lake in Caddo Parish, Louisiana.[12] Around 1950, while developments were taking place in United States waters, the British Petroleum Company was engaged in exploration operations off the coast of Abu Dhabi in the Persian Gulf.[13] After a temporary halt to offshore development following World War II, as a result of post-war advanced

technology, the industry developed a firm grasp on a strong future.[14] In the United Kingdom, the first offshore well was drilled in 1964.[15] During the oil crisis in 1973-1974, several thousand fixed still jacket offshore oil rigs were in service in such places as Alaska, Australia, Brazil, Indonesia, New Zealand, the Persian Gulf and Zaire.[16] Offshore oil production has been under way in Australia for nearly thirty years.[17]

2.3 Facts and Statistics About Oil Rigs

The rate of offshore oil production and the use of offshore oil rigs is significantly increasing. Offshore oil production now represents nearly one third of the world's hydrocarbon liquid production.[18] Offshore oil production is predicted to account for approximately 34 percent of world production by 2005.[19]

At the end of 1997, in the United Kingdom, 186 offshore oil and gas fields were in production.[20] In Australia nearly 90 percent of the petroleum wealth is found offshore.[21] Up to 100 offshore wells per year are drilled in Australian offshore areas.[22]

2.4 Classification of Oil Rigs and Platforms

Offshore drilling units may be classified in different ways based on different criteria.[23] One such classification of structures is based on the purpose of the drilling unit, such as installations for the purpose of exploratory drilling, development and production drilling. In an inclusive classification, oil drilling units can be classified as fixed platforms and mobile units. Although a fixed drilling platform could be defined as a drilling rig, the term 'oil rig' usually refers to a mobile unit.[24] However the types and physical nature of both categories of offshore drilling units will be discussed here.

2.4.1 *Mobile Units*

Offshore rigs may be mounted on a fixed platform for development drilling, however, must be mobile for the purpose of exploratory drilling. A mobile drilling unit is 'a self-contained and moveable unit or ship supporting a drilling rig, which can be moved from one drilling location to another'.[25] Therefore, mobile rigs can generally be classified as floating and bottom-supported.

2.4.1.1 Floating Rigs Floating offshore oil drilling platforms are becoming a more popular choice among oil and gas companies for deep water filled production.[26] Floating platforms rest on the seabed by virtue of their own weight, and thus require no piling. These include drill ships, which are self-propelled; barges, which are towed and anchored by tugs; and semi-submersibles, whose equipment is mounted out of the reach of waves on legs supported by ballasted pontoons.

2.4.1.2 Drilling Ships Drilling ships are ship-shaped and mobile drilling rigs specially constructed for drilling for oil or gas in deep water.[27] They have deep water capability and the capacity to transport huge supplies of drilling equipment.[28] Modern drilling ships are equipped with dynamic positioning riggings which enable them to keep on testing above the borehole, particularly in bad weather.[29]

The American Bureau of Shipping (ABS) classified drill ships into three categories: Surface Type Drilling Units, Self-elevating Drilling units and Column Stabilised Drilling Units.[30] It then divides the first category into two groups: firstly, Ship Type Drilling Units; and secondly, Barge Drilling Units.[31] It then described the 'Ship Type Drilling Units' as 'seagoing ship-shaped units of the single hull, catamaran or trimaran types which have been designed or converted for drilling operations in the floating condition'.[32]

Lloyds' Register of Shipping (LRS), in its 'Rules for the construction and classification of mobile offshore units', refers to 'Ship Units' as 'self-propelled units of ship-shaped single or multiple hull form designed to operate afloat'.[33] According to this definition, Ship Units are distinctly different from barge drilling units, and they must be ship-shaped, whether in single or multiple hull form, self operating, and afloat.[34]

Det Norske Veritas, in its 'Rules for the Construction and Classification of Mobile Offshore Units' does not distinctly define a drill ship as a separate category; rather, it refers to it as a sub category of 'other types of offshore units'. Under this category, it is stated that 'Units which are designed as mobile offshore units, which do not fall into the above-mentioned categories, will be treated on an individual basis and be assigned an appropriate classification designation'.[35]

A drilling ship with automated station-keeping facilities has the ability to manoeuvre properly.[36]

2.4.1.3 Semi-submersibles

> A floating drilling rig consisting of hulls or caissons, carrying a number of vertical stabilising columns, supporting a deck fitted with a derrick and associated drilling equipment. Semi-submersible drilling rigs differ principally in their displacement, hull configuration, and the number

of stabilising columns. Most modern types have a rectangular deck. A few are cruciform shaped, others pentagon shaped, while some of the smaller rigs have a triangular deck. The most usual hull arrangement consists of a pair of parallel rectangular pontoons, which may be blunt or rounded and house thrusters for position keeping or self-propulsion, although some have individual pontoons or caissons at the foot of each stabilising column or pair of columns. Eight columns (four stabilisers and four intermediate columns) are a very common arrangement but three and six are also quite common, and both hulls and columns are used for ballasting and carriage of stores.[37]

The American Bureau of Shipping[38] and Lloyds' Register of Shipping[39] includes semi-submersible drilling units as a kind of 'Column Stabilised Drilling Unit'. The ABS describes the Column Stabilised Drilling Units as follows:

> Units of this type are self-contained and are supported by either lower displacement type hulls by means of columns or by large caissons with or without bottom footings. Drilling operations may be carried out in the floating condition, in which condition the unit is defined as a semi-submersible, or when resting on the bottom, in which condition the unit is defined as submersible. A semi-submersible drilling unit may operate either floating or resting on the bottom.[40]

2.4.1.4 Barges A drilling barge is a drilling unit which resembles a barge rather than a ship and is usually box shaped or semi ship-shaped. The drilling unit often resulted from the conversion of barges. It has been described as follows:

> A term used loosely to describe any type of offshore drilling vessel, but also referring specifically to an earlier type of unpowered, flat bottomed rig with a ship-shaped hull. The latter are quite small rigs with a displacement in the region of 3500 tons, although a few of over 10,000 tons have been constructed.[41]

The American Bureau of Shipping include the drilling barge as a category of 'Surface Type Drilling Units'. It divides the latter into two groups: firstly, 'Ship Type Drilling Units'; and secondly, 'Barge Drilling Units'. It then defines the 'Barge Drilling Units' as seagoing units designed or converted for drilling operations in the floating condition.[42]

2.4.1.5 Bottom-Supported Bottom supported rigs are those installations which are sunk to the bottom or self-propelled or mounted out of the reach of waves on legs supported by ballasted pontoons. They can be divided into two categories: submersible drilling units and jack-up oil rigs.

2.4.1.6 Submersible Units Submersible units are bottom-resting installations, but with the rig floor several metres above the water line to provide protection from waves. It has been described as follows. 'A type of drilling unit designed to operate close to shore, being an adaptation of the land-based rig. The deck of the rig is supported on a number of vertical or horizontal pontoons which are flooded when the rig is in position for drilling. Hence, the submersible is restricted to drilling in shallow waters, and it is not easily adapted for drilling in different locations'.[43]

The American Bureau of Shipping,[44] includes submersibles as a kind of 'Column Stabilised Drilling Unit' (CSDU) and describes the CSDU as follows:

> Units of this type are self-contained and are supported by either lower displacement type hulls by means of columns or by large caissons with or without bottom footings. Drilling operations may be carried out in the floating condition, in which condition the unit is defined as a semi-submersible, or when resting on the bottom, in which condition the unit is defined as submersible. A semi-submersible may operate either floating or resting on the bottom.[45]

A submersible drilling unit must be distinguished from another installation, also called submersible, which is an underwater vehicle used in offshore work to provide services in the sub-sea realm of oil and gas prospecting.

2.4.1.7 Jack-up Drilling Units Jack-ups are a self-elevating drilling unit which is either towed or propels itself to its location. Therefore, it is able to lower its legs so that they rest on the seabed, and the deck is raised above sea-level. It has been described as follows:

> A type of mobile drilling rig designed to operate in shallow water, generally less than 110 metres deep, Jack-up rigs are very stable drilling platforms as they rest on the seabed and are not subjected to the heaving motion of the sea as are semi-submersible rigs and drillships. They have a barge-like hull, which may be ship-shaped, triangular, rectangular, or irregularly shaped, supported on a number of lattice or tubularegs. When the rig is under tow to a drilling location the legs are raised, projecting only a few metres below the deck, and the structure behaves like a cumbersome floating box, and so can be towed only in good sea states at a slow speed. On arrival at the location the legs are lowered by an electric or hydraulic jack unit resting on the seabed and the deck is level, some 20 metres or so above the waves. Most Jack-up rigs have

3, 4 or 5 legs, but a few of the earlier models have 8 or 10, and one has 14. The legs are either vertical or slightly tilted for better stability. In one design they are fixed to a large steel mat, which is called a mat supported jack-up.[46]

2.4.2 Fixed Units

The fixed offshore structures are basically similar to the land-based structures but with a very special additional requirement. A fixed offshore structure is a necessary requirement at a designated offshore site for an operational deck having a prescribed minimum working area and carrying a prescribed weight loading. The fixed platforms used for offshore oil drilling and production are rather elaborate structures using three or more structural towers with a platform on top.

The most common types of fixed offshore structures in existence today are jacket structures, ice resistant structures, gravity structures and deep-water design forms.

2.4.2.1 Jacket Structures The jacket is a constructed steel substructure that is extended from the sea floor to above the water surface and has a deck on the top. The jacket is the basic element of the platform.[47] The pipe piles, driven through the legs of the substructure into the sea floor, support the deck. These piles fix the structure in place against lateral loadings from wind, waves, and currents. This structure must be transported to the installation site on barges or provided with considerable additional buoyancy.[48]

2.4.2.2 Tower Platforms These are self contained buoyancy towers which have large legs and provide sufficient buoyancy so that the tower floats above water during transport.[49] This kind of platform has been used in Southern California and in the North Sea.[50]

2.4.2.3 Gravity Structures Gravity structures are used in deep waters and usually built of reinforced concrete but sometimes of steel.[51] They use gravity to keep themselves stable on the seabed.[52] 'A typical gravity structure consists of a cellular concrete or steel base for storage or ballast, a number of vertical columns which support a steel deck and give access to the risers, and a deck accommodation in the form of detachable modules'.[53] These structures rest directly on the sea floor by virtue of their own weight.[54]

2.4.2.4 Caisson Well-Guard Platforms These structures are used for the development of a single well.[55] They are 'a cylindrical or tapered tube enclosing the well conductor'.[56]

2.5 Conclusions and Comments

Offshore oil rigs are constructed in different ways and can be classified in various categories. However, for the purpose of this study, the classification of oil rigs into the two categories of mobile and fixed platforms has legal consequences. Mobile oil rigs are either floating or bottom supported. The first category includes drilling ships, semi submersibles and barges. The second category includes submersible units and jack-up drilling units. Fixed oil rigs are jacket structures, tower platforms, gravity structures and caisson well guard platforms.

The legal issues arising from the operations of mobile oil rigs are mainly related to their status, i.e., whether or not they are ships, and which country has jurisdiction over them. The main legal issues relating to fixed oil rigs are the identification of jurisdiction on board, or in relation to them, their removal, their protection and the safety zones around them.

Notes

1. *Passage through the Great Belt, (Finland v Denmark)*, ICJ, 1991, (1994) 94 ILR 446.
2. See Chapter 3 below.
3. See D Behrman, *The New World of the Oceans, Men and Oceanography*, Little Brown (1969) p 151; JP Carven, 'United States Option in the Event of Nonagreement' in LM Alexander, *The Law of the Sea: a New Geneva Conference*, University of Rhode Island (1971) 46 at 49; K Kikutake, 'Offshore Structure and Human Environment' in Ocean Association of Japan, *Marine Technology and Law Development of Hydrocarbon Resources and Offshore Structures, proceeding of the 2nd International Ocean Symposium* (1977) 114 at 115.
4. N Papadakis, *The International Legal Regime of Artificial Islands*, Sijthoff (1977) p18.
5. See, WT Burke, *The New International Law of Fisheries*, Clarendon Press (1994), p 236.
6. See, DM Johnston, 'Law, Technology and the Sea' (1967) 55, *California Law Review* 449.
7. *Ibid* at 454 and SK Eaton and J Judy, 'Seamounts and Guyots: A Unique Resource' (1973) 10 *San Diego LR* 599 at 606-607.
8. See, SK Eaton and J Judy *ibid* at 608-609.
9. Military use of seabed and offshore installations have been discussed by: E Luard, *The Control of the Seabed*, Heinemann (1974) pp 49-60; DG Kiely, *Naval Electronic Warfare*, Defence Publisher (1988); JR Hattendorf, 'Recent Thinking on the Theory of Naval Strategy' in JB Hattendorf et al, *Maritime Strategy and the Balance of Power*, St Martins Press (1989) 136; LW Martin, *The Sea in Modern Strategy*, Praeger (1967); and RG Hewlett and F Duncan, *Nuclear Navy*, University

of Chicago Press (1974). For a discussion on legal aspects of the military use of the sea and offshore installations, see: RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) pp 421-430; DP O'Connell, *The Influence of Law on Sea Power*, Manchester University Press (1975) pp 146-159; RW Gehring, 'Legal Rules Affecting Military Use of the Sea' (1971) 54 *Military Law Journal* 168; T Treves 'Military Installations, Structures, and Devices on the Seabed' (1980) 74 *AJIL* 808; RJ Zedalis, 'Military Installations, Structure, and Devices on the Continental Shelf: A Response' (1981) 75 *AJIL* 926; LC Petrowski, 'Military Use of the Ocean Space and Continental Shelf' (1968) 7 *Colum J Transnational* L 279; CE Pirtle, 'Military Uses of Ocean Space and the Law of the Sea in the New Millennium' (2000) 31 *ODIL 7*.

10. See, FM Auburn, 'The International Seabed Area' (1971) 20 *ICLQ* 173 at 186-188.
11. WJ Graff, *Introduction to Offshore Structures*, Gulf Publication Company (1981) p 4.
12. *Ibid*.
13. *Ibid*, p 17.
14. *Ibid*, p 7.
15. Home page of UK Offshore Operation Association (UKOOA) (viewed February 2001). at: *http://www.ukooa.co.uk/inform/keydates2.html*.
16. WJ Graff, note *supra*, p 260.
17. Australian Institute of Petroleum (AIP) and the Australian Petroleum and Exploration Association (APEA) Education Project (1995) (viewed February 2001):
    http://www.aip.com.au/education/ptaos.html
18. *Oil & Gas Journal*, 12 May 1997.
19. *Offshore*, April 1995.
20. UK Offshore Operation Association (UKOOA) Home Page (2001) (viewed February 2001) at:
    http://www.ukooa.co.uk/informal/keydates2.html.
21. Australian Institute of Petroleum (AIP) (viewed February 2001) at:
    http://www.aip.com.au/frames/education.html.
22. *Ibid*.
23. For a precise and technical classification of offshore drilling units see: B McClelland and MD Reifel, *Planning and Design of Fixed Offshore Platforms* (1986) pp 11-23 and LF Boswell et al, *Mobile Offshore Structures*, Van Nostrand Reinhold (1988).
24. H Whitehead, *An A-Z of Offshore Oil and Gas*, Gulf Publishing Company (1983) p 234.
25. *Ibid*, p 180.
26. *The Oil Daily*, April 13, 1995.
27. H Whitehead, note *supra*, p 91.
28. DA Fee and J O'Dea, *Technology for Developing Marginal Offshore Oilfields*, Elsevier Applied Science (1986) p 17.
29. H Whitehead, note *supra* p 92.

30. M Summerskill, *Oil Rigs: Law and Insurance*, Stevens & Sons (1979) p 1.
31. *Ibid*.
32. *Ibid*.
33. *Ibid*, pp 1-2.
34. *Ibid*.
35. *Ibid*, p 2.
36. H Whitehead, note *supra*, p 92.
37. *Ibid*, p 247.
38. In its 'Rules for Building and Classing Offshore Mobile Drilling Units'.
39. In its 'Rules for the Construction and Classification of Mobile Offshore Units'.
40. M Summerskill, note *supra*, p 5.
41. H Whitehead, note *supra*, p 88.
42. M Summerskill, note *supra*, p 4.
43. H Whitehead, note *supra*, p 269.
44. In its 'Rules for Building and Classifying Offshore Mobile Drilling Units'.
45. M Summerskill, note *supra*, p 8.
46. H Whitehead, note *supra*, p 157. For a list of jack-up drilling units in service and under construction see, *Offshore Yearbook* (1987) pp 123-158.
47. WJ Graff, note *supra*, p 106.
48. WJ Drawe and MD Reifel, Platform Function and Types in B McClelland and MD Reifel, *Planning and Design of Fixed Offshore Platforms*, Van Nostrand Reinhold Company (1986) 11 at 19.
49. *Ibid*.
50. *Ibid*.
51. H Whitehead, note *supra*, p 129.
52. *Ibid*.
53. *Ibid*.
54. WJ Graff, note *supra*, p 261.
55. WJ Drawe and MD Reifel, note *supra*, at 16.
56. *Ibid* at 18.

3 The Legal Status of Offshore Oil Rigs

3.1 Introduction

The issue of the legal status of offshore oil rigs is of fundamental importance[1] to offshore installations and oil rigs and as a basis for the discussion of other legal issues related to offshore installations and oil rigs from a number of practical points of view. Categorising offshore oil rigs as ships, artificial islands, offshore installations and structures, or including them in a separate category of their own, may have different legal consequences in each particular situation.

For example, if 'oil rigs' are considered 'ships' in international law then they are entitled to the rights of innocent passage; they have to fly under a flag and the flag States have jurisdiction over the oil rigs and people on board. By including oil rigs in the category of ships a number of regulations and provisions of many international conventions in relation to ships, such as provisions relating to marine pollution, arrest of ships, collision and salvage, will be applicable to oil rigs as well.

In the *Case Concerning Passage Through the Great Belt*[2] before the International Court of Justice, the issue of the legal status of oil rigs was raised and discussed in the Memorial and Counter-Memorial of Finland and Denmark. In fact a number of top European international lawyers spent months determining whether certain kinds of oil rigs and mobile oil drilling units, are ships for the purpose of innocent passage or not. The case was settled out of court in September 1992.[3]

Oil rigs may be included in other categories, such as artificial islands, or in a separate category of their own. Incorporating oil rigs in the category of 'artificial islands', or including artificial islands in the category of 'offshore installations', may not have a practical significance at this time due to the fact that the LOSC applies a similar legal regime to both. However, because of the rapid growth in the number of both oil rigs and artificial islands for various economic purposes, there are a number of international legal questions with respect to different legal matters such as the problems of jurisdiction and pollution in concert with the construction and use of oil rig and offshore artificial islands in the future.

In this chapter, the different approaches concerning the legal status of oil rigs will be discussed. Firstly, it will examine whether oil rigs, in both

domestic and international law, may be considered as ships. Following this, the legal status of artificial islands under the 1982 United Nations Convention on the Law of the Sea (LOSC), and the question as to whether oil rigs may be incorporated in the category of artificial islands, will be examined. Finally, oil rigs as a separate category of their own, and under the LOSC, will be discussed. In considering these issues, relevant international conventions, domestic legislation, international and domestic cases and State practice will be considered. At the conclusion of this discussion a preferred approach for classification of different types of artificial islands and offshore installations will be proposed.

3.2 Oil Rigs as 'Ships'

Are oil rigs ships? This question is not new and is often asked both by those who have a connection with oil rigs professionally and those who are outside the industry, such as insurance companies and lawyers.[4] The question is raised due to a number of practical consequences with respect to international and domestic legal matters. More importantly the question may be raised in relation to legal matters concerning the international law position.

The definition of 'ship' itself is not clear in either municipal and international law. There are various definitions of 'ship' based on the purpose applicable to the relevant statutes or conventions. However, it is difficult to give a precise definition which would be large enough to contain all the infinite varieties of maritime craft.[5]

The issue may be approached by reviewing dictionary definitions of a 'ship' or inferring the legal meaning of 'ship' from international conventions and the national laws of different countries. However, it might be appropriate to look in each case at the context in which the question of the legal status of oil rigs arises. Here, it is intended first to examine the definition of 'ship', and to find out what elements are common to ships. Then, certain situations in which the question of the legal situation of oil rigs as ships may arise will be dealt with under both municipal and international law.

3.2.1 Definition of 'Ship' in Municipal Law

In modern times, most definitions of 'ship' are given in various national legislation such as the Merchant Shipping Acts, the Acts concerning Nationality and Registration of Ships, Navigation Acts, Admiralty Acts, Fisheries Acts and Marine Pollution Prevention Acts. In national legislation there are various definitions used to describe the meaning of 'ship' and certain types of vessels, such as barges, tugs, pontoons, dredgers, lighters

and boats and offshore installations.[6] Even in the statutes of one country, there may be different definitions for various types of ships.[7]

There are not many common elements in the definition of 'ship' in different municipal laws. However, in almost all legal systems, the ship is considered to be a movable chattel with certain qualifications such as tonnage,[8] the ability to navigate,[9] use for purpose of transportation[10] and means of propulsion.[11]

3.2.1.1 Common Sense For a long period of time the common sense definition of 'ship' was employed in municipal laws and legislation. A writer with respect to the common sense definition of 'ship' says: 'a ship is a ship. What is more clear than that? Everyone knows what a ship is: something built by men, going in the water and carrying persons and goods'.[12] Common sense can only go so far, however. There will still be doubtful cases where presumption of common sense may differ.

3.2.1.2 Dictionary Definition of 'Ship' A dictionary definition of a 'ship' may be regarded as a good starting point before dealing with the term in a particular context.[13] According to the *Oxford English Dictionary*,[14] "a ship is a 'vessel having a bowsprit and three masts' ...".[15] *Websters' Dictionary*[16] defines a vessel as 'a usually hollow structure used on or in the water for purposes of navigation: a craft for navigation of the water; esp: a watercraft or structure with its equipment whether self propelled or not that is used or capable of being used as a means of transportation in navigation or commerce ...'[17]

The *Oxford Dictionary*'s definition is a technical traditional definition of 'ship'. Whereas, the *Websters'* definition seems to have a legal meaning similar to the definition of 'ship' in a number of national legislative enactments and international treaties. The dictionary definition of 'ship' is primarily based on the physical object itself which is described as a 'vessel' with a bowsprit and a few masts and then continues with a description of its purpose, ie, 'navigability' and 'capable of being used as a means of transportation'. Certain types of oil rigs may qualify for inclusion in the dictionary definition of 'ship' as will be discussed below.

3.2.1.3 Ships and Vessels It seems that 'vessel' may have either a broader or a narrower meaning than 'ship'.[18] The term vessel constitutes a variety of maritime craft, while the term 'ship' is limited to a few species of the same genus.[19] It has been said that although defining a ship as a species of the genus vessel may be based on sound reasoning, individual statutes can, by their wording, produce a different result.[20] According to Caron "the terms 'ship' and 'vessel' are generally regarded as equivalent, although 'ship' is the primary term used in treaties in this area".[21]

From an international perspective the terms 'ship' and 'vessel' are often used interchangeably. At the resumed ninth session of UNCLOS III (1980) a report by the Drafting Committee recommended that in the English and Russian versions of the Convention the terms 'ships' and 'vessels'[22] should be defined as having the same meaning.[23] Although, these changes were not accepted by the Conference,[24] the LOSC uses the terms 'ship' and 'vessel' interchangeably.[25]

For the purpose of this study the words 'vessel' and 'ship' are used interchangeably.

3.2.1.4 Navigation Navigation, or the ability to navigate, appears to be a principal element in the definition of a 'ship'. Navigation has been described as 'on the seas, at the ports, in the ponds and in the canals where the waters are salty and up to the limits of the maritime inscription, in the large and small rivers and canals up to the point (a ship) can proceed by the tide, or where there is no tide, up to the point that the ship can proceed'.[26] This definition has been criticised as being too wide and insufficient.[27] In *Steenman v Scofield* the term 'navigation' was judicially defined as the 'nautical art or science of conducting a ship from one place to another'.[28] It has been said that navigation does not necessarily mean independent navigation.[29] As such, a ship or other craft may be used in navigation by external forces such as by towing.[30] According to this definition those types of oil rigs which are not able to navigate independently but can be towed by other ships may be considered ships.

It is well established in both common law[31] and civil law[32] legal systems that a vessel that substantially goes to sea is a ship.[33] The Australian Navigation Act 1912 (Cth) defines 'ship' as any kind of vessel 'used in navigation'.[34] This definition followed the Merchant Shipping Act 1894 (Imp).[35] A ship in the Australian Shipping Registration Act 1981(Cth) is defined as any kind of vessel 'capable of navigating the high seas'.[36] Technically, there may be some variance between the two terms, 'used in navigation' and 'capable of navigating', employed in Australian legislation. However, it is not clear whether this criterion is concerned with 'the abstract capability of navigating on the high seas or with the practice of actually navigating the oceans'.[37] Mobile oil rigs would fulfil both criteria.[38] They are designed to be capable of navigation and they are engaged in navigation as well.[39] However, an oil rig engages only incidentally in navigation in order to get to and from its site. This may create doubt about the fact that oil rigs can engage in navigation, in as much as it is very likely that 'engaged in navigation' means 'principally engaged'. The position in both national and international law is not clear. However, in most national cases the occasional use of rigs in navigation is considered as evidence of navigability.[40]

3.2.1.5 Transportation It is sometimes necessary for a vessel to perform the function of transporting goods and persons. In *Presly v Healy Tibbits Construction Co*[41] the US District Court of Maryland affirmed that a ship is involved in navigation if it performs the function of transporting people or things in commerce.[42]

3.2.1.6 Means of Propulsion The means of propulsion of a vessel may be considered as the criterion to define 'ship'. The Australian Navigation Act 1912[43] and the Admiralty Act 1988[44] define a 'ship' as any kind of vessel used (or, according to the Admiralty Act, constructed for use) in navigation which is propelled or moved. These include within their definition an offshore industry mobile unit.[45] Article 8(3) of the Navigation Act defines an 'offshore industry mobile unit' in detail. It includes all types of mobile oil rigs.[46]

3.2.1.7 Conclusion In the differing municipal laws, 'ship' has not been precisely defined. Municipal law has adopted a relatively broad definition of the words 'ship' and 'vessel'. The varying national legislation has provided a number of elements as characteristics of ships such as capability of navigation or usage as a means of transportation on water. Some legislation has expressly mentioned examples of a ship in their definition. Others have excluded certain water instruments. Navigation, however, is the most common characteristic of a ship in both national legislation and case law. However, the definition of 'navigation' is unclear.

3.2.2 'Mobile Oil Rigs' as 'Ships' in Municipal Law

Could a floating platform be considered as a ship? To answer whether the concept of a 'ship' or 'vessel' applies to oil rigs, we face two problems. The first issue is, as was stated previously, that there is no precise and adequate definition for 'ship' in national law. However, there are certain common elements in national law which can be found in the legislation and domestic cases. The second problem is that it is very difficult to align the existing common elements, contained in the definition of a 'ship', with a new item such as an oil rig.

From the point of view of the dictionary definition of 'ship', oil rigs, particularly fixed rigs, except in the case of a drilling ship, lack the essential shape of a conventional ship and certain elucidated dictionary characteristics such as 'hollow structure'. As to the significance of the word 'hollow', it may be stated that the hollow shape of a conventional ship enlists the double purpose of both performing flotation and creating a space in which to put the people and things being carried.[47] An oil rig has the first characteristic of hollowness, that of flotation, whether it be a jack-up or a semi-submersible, however, a drilling unit does not have a space for the people and things being carried which constitutes the second requirement of hollowness.[48] The space in drilling units is placed on the upper side of the unit and the hollowness is below, and people and objects may be carried without the necessity of a hollow space.[49]

> A large number of the domestic legislative acts surveyed here provide broad criteria for the definition of 'ship' such as 'being seagoing', 'navigability', 'be used for the purpose of transportation' and 'means of propulsion'.

Mobile oil rigs may be considered to be seagoing and as having the ability to navigate. Certain types of drilling units, such as drilling ships, semi-submersibles and jack-up units normally go to sea or are capable of going to sea. Furthermore, a drilling unit, for the purpose of drilling, carries people, fuel, supplies and other necessary equipment. They move from one place to another, they pass straits and they are almost always placed at sea. This position has been held in a number of national cases.[50] The United States District Court for the Southern District of Texas tried to define a 'vessel' in order to determine if the SEDCO 135 rig was a vessel for the purpose of invoking the US Limitation of Liability Act.[51] In defining a 'vessel' the court said:

> Thus, as the law has evolved, several factors have emerged as indicia of whether a craft is a vessel under the Act. First, the craft must be built with the intent that it be used in navigation as a means of transportation. Second, the contrivance must not be permanently attached to the shore or seabed. Finally, the craft must be subject to the perils of the sea.[52]

The court then found that, in comparing these factors to the craft in question, the SEDCO 135 semi submersible rig is a vessel under the Limitation Act.[53] The court added that, 'Structures which are nothing more than artificial islands permanently affixed to the seabed have also been held not to be vessels under the Limitation Act'.[54] In *Claborne McCarty v Service Contracting, Inc*,[55] the United States District, Eastern District Court of Louisiana said: 'An invaluable aid in offshore oil exploration, a submersible drilling barge is a unique craft whose specialised function is the location and commercial production of oil reserve found beneath the surface of the water. By the very nature of their job this specialised craft must be capable of at least some degree of mobility on navigable waters and there is now simply no question but that such craft are 'vessels' within the import of both the Jones Act and General Maritime Law'.[56]

The exact meaning of the terms 'sea going' and 'navigability' is not clear from the definitions of 'ship' in different national laws. Whether these

terms relate to the abstract capability of navigation on the sea, to the practice of actually navigating the sea, to the construction purpose of being for navigation, or to the primary use of a vessel for navigation, has not been elucidated. In any event, except, for the last criterion, mobile oil rigs fulfil the conditions. They are capable of navigating, they are practically engaged in navigation, they have been designed for navigation and that is why they are mobile but navigation is not their primary purpose. However, the last criterion, which is not fulfilled by mobile oil rigs, is generally not required by municipal law courts as evidence of navigability. In most national cases, the occasional use of rigs in navigation is considered as evidence of navigability.[57] In *Qualls v Arctic Alaska Fisheries*[58] it was held that a vessel does not have to be actually plying the sea for it to be 'in navigation'.[59] It will be considered as being in navigation if it is engaged as an instrument of commerce or transportation in navigable waters.[60] In a case decided by the Pakistani High Court of Baluchistan[61] a question arose as to whether, after a ship is delisted by the registry of the country whose flag she flies, and significantly dismantled, she can still be considered a ship. While considering the question it was held that not all floating structures in the water can be considered as a ship or vessel. It is required that the floating structure should be navigable and should be capable of encountering the perils of the sea and should have the characteristics of a vessel.[62]

Mobile oil rigs are considered, by some,[63] to fulfil the criterion of transportation of goods and people as they are designed to transport drill rigs and other offshore equipment from place to place. On the contrary, it has been said that they would not be considered as vessels for the carriage of goods by sea because they are not intended for the carriage of goods but for the drilling of hydrocarbons in the seabed.[64] It seems that certain types of mobile oil rigs such as drilling ships fulfil the requirement of being engaged in transportation because they transport drill rigs, goods and oil rig workers. However, those types of oil rigs which are towed by ships may not be considered as being engaged in transportation because they are themselves transported rather than transporting things such as goods and people.

In some national legislation mobile oil rigs which are not self propelled are expressly excluded from the definition of 'ship'.[65] However, in other legislation, all forms of mobile oil drilling rigs are covered by the definition of 'ship'. For example, the 1981 Australian Shipping Registration Act defines 'ship' as any kind of vessel capable of navigating the high seas including a structure that is able to float or be floated and is able to move or be moved as an entity from one place to another.[66]

In the UK Continental Shelf Act 1964, in relation to the application of criminal and civil law on board oil installations, oil rigs are not treated in the same manner as ships. They are the subject of separate provisions.[67] Application of criminal and civil law on board oil rigs and the significance

of the UK Continental Shelf Act 1964, in light of the admiralty jurisdiction, will be discussed in chapters following.[68]

In conclusion, it may be said that the various types of national legislation have taken significantly different approaches regarding the legal identification of oil rigs in diverse contexts depending on the required intention. This has provided a number of criteria which clearly may not apply unilaterally to the diversity of oil rigs. In some legislation mobile oil drilling rigs have expressly been considered ships for the purpose of national law.[69] In others, however, they have explicitly been excluded from the definition of 'ship'.[70] It may be said that generally not all types of mobile oil rigs may be defined as ships. Nevertheless, they have been treated like ships for several municipal law purposes.

3.2.3 Fixed Oil Rigs as Ships in Municipal Law

Although it is not clear if mobile oil drilling ships may be defined as ships in domestic law they have been treated as ships for certain domestic law purposes. However, it is obvious that fixed oil rigs for the purpose of exploration and exploitation of the natural resources of the sea may not be defined as ships.

Certain types of fixed oil rigs may be treated as ships for some legal purposes when they are towed for placement at sea or for dismantling in or out of the sea. According to Finnish legislation, 'ship means a vessel of any type whatsoever, including floating craft, whether self-propelled or towed by another vessel ...'.[71] The same position is held by the 1974 Marine Pollution Control Law of Oman which included floating barges 'whether automotive or towed' in the definition of a 'vessel'.[72]

Exceptionally, some legislation has expressly included fixed oil rigs in their definition of 'ship'. For example, Spanish legislation has included fixed platforms or structures at sea in its definition of 'ship' for the purpose of dumping from ships and aircraft.[73] It states that 'Ships and aircraft means water-borne or airborne craft of any type whatsoever. For the purpose of this Act, this expression includes air-cushion craft, floating craft, whether self-propelled or not, and fixed or floating platforms or other structures at sea, from which dumping can be carried out'.[74] A similar position is held by the Finnish Law on the Prevention of Pollution from Ships.[75]

It can be concluded that fixed oil rigs will not normally be considered ships in the definition of 'vessel' in domestic law. They lack the dictionary definitions' requirements of a ship. They are neither constructed to be used in navigation nor are used in navigation. They are not self propelled and are not used for the purpose of transportation of goods and people at sea.

3.2.4 'Ships' and 'Oil Rigs' in International Law

In international law, as in national law, there is no clear-cut definition of the words 'ship' or 'vessel'. This is because, as we will see below, there are different definitions in the texts of international conventions with respect to the words 'ship' or 'vessel' according to the purposes of the particular conventions, treaties and international regulations. It is also not clear if all or some types of drilling ships are considered ships. Sometimes only some kinds of oil rigs have been treated as ships or vessels. In other cases, oil rigs are treated as artificial islands or as separate entities. Even from a technical point of view[76] there are no common standards for the description of a ship for juridical purposes. Different ships, crane vessels and drill ships are made for maritime purposes.[77]

To render a definition for 'ship', it seems appropriate to examine the various definitions found in international conventions and the practice of states, in order to find a set of common regulations for the legal situation of ships in international law based on the existing conventions.

Various international conventions may clearly be applicable in many aspects of the different kinds of offshore oil rigs. Many international conventions which are applicable to ships, with or without a definition of 'ship', may affect the legal situation of drilling rigs to some extent. In international law, a question worth pondering is whether there is any particular situation in which certain legal rules regarding a ship could be applicable to certain offshore installations such as oil rigs. It seems that in a number of situations, an offshore oil rig may be treated as a ship for certain purposes.[78] It is intended to consider here a number of situations in which certain offshore installations may be treated as ships.

3.2.4.1 International Conventions Concerning Salvage Salvage, means 'a compensation allowed to persons by whose assistance a ship or its cargo has been saved, in whole or in part, from impending danger, or recovered from actual loss, in cases of shipwreck, derelict, or recapture'.[79] The question here is whether the concept of salvage is applicable to oil rigs. It is understood from international treaties that the subject of a salvage must be a ship or vessel.

The 1910 Convention for the Unification of Certain Rules of Law Respecting Assistance and Salvage at Sea,[80] does not define the word 'vessel'. However, it is said that the convention applies widely to boats regardless of their nature.[81] The Convention sets out certain provisions for assistance and salvage of sea-going vessels in danger, of any things on board, of freight and passage money, and also services of the same nature rendered by sea-going vessels to vessels of inland navigation or vice versa.[82] The Convention may apply to a pontoon, to a ship-gate and to other maritime engines. The word

'ship' may include all the varieties of vessels which float on the water involving the transport of persons or goods or employed for industrial, scientific, commercial and technical operations. It has also been said that certain objects such as floating derricks, elevators, dredgers and pile-driving frames ought to considered vessels within the meaning of the Convention.[83] The 1910 Brussels Salvage Convention does not make any division between different types of seagoing vessels, probably leaving the task to municipal law.[84]

The 1989 International Convention On Salvage[85] defined 'vessel' in Article 1(b) and has excluded fixed oil rigs and mobile rigs engaging in the exploration and exploitation of seabed minerals on location from the definition of 'vessel' in Article 3. The relevant provisions of the Convention concerning the definition of 'oil rigs' and 'ships' are discussed below.[86]

It therefore seems that the application of the concept of salvage depends on the meaning of 'ship'. If an oil rig in a specific case is considered a ship then it would be susceptible to salvage.[87]

This position has been affirmed in a number of domestic cases. According to Justice Bradley, in *Cope v Vallette* Dry Dock Company,[88] structures which are not used for the purpose of navigation are not the subjects of salvage service. He stated:

> A fixed structure, such as this dry dock is not used for the purpose of navigation, is not a subject of salvage service, any more than is a wharf or a warehouse when projecting into or upon the water. The fact that it floats on the water does not make it a ship or vessel, and no structure that is not a ship or vessel is a subject of salvage. A ferry bridge is generally a floating structure, hinged or chained to a wharf. This might be the subject of salvage as well as a dry dock. A sailors' floating bethel or meeting house moored to a wharf, and kept in place by a paling of surrounding piles, is in the same category. It can hardly be contended that such a structure is susceptible of salvage service. A ship or vessel, used for navigation and commerce, though lying at a wharf, and temporarily made fast thereto, as well as her furniture and cargo, are maritime subjects and are capable of receiving salvage service.[89]

3.2.4.2 International Conventions Related to Collisions A collision[90] is defined as a rough confrontation of one moving body with another.[91] Although the term 'allision' seems to be more accurate in describing a rough contact between a moving vessel and a fixed object or a platform,[92] if a drilling unit has an accidental contact with a ship or another drilling unit, it is also possible to use the term 'collision' for legal purposes.[93] However, it is intended here to discuss the application of international regulations concerning collisions in which an oil rig is involved.

The International Convention for the Unification of Certain Rules of Law with Respect to Collisions between Vessels, signed in Brussels on September 23, 1910,[94] refers to 'ship' and 'vessels' without giving any definition.[95] However, it excludes ships of war and government ships appropriated exclusively to public service.[96]

The Inland Waters Collision Convention, Geneva 1930, which is applicable to sea going vessels and vessels in inland navigation,[97] includes a number of maritime craft such as sea gliders, rafts, ferries, dredgers, cranes, floating elevators, mobile sections of the ship and all machinery and floating equipment of an analogous nature.[98]

The International Convention on Certain Rules Concerning Civil Jurisdiction in Matters of Collision, signed in Brussels on May 10, 1952,[99] applies to collision and to damages caused by improper manoeuvres, failures to manoeuvre, or non compliance with regulations, even when there has been no actual collision.[100] The Convention refers to an action for collision occurring between seagoing vessels, or between a seagoing vessel and inland navigation craft,[101] and does not affect domestic laws concerning collisions involving warships or vessels owned by or in the service of a government.[102]

The 1952 Civil Jurisdiction Convention does not apply when none of the vessels involved is seagoing[103] and the terms 'ship' and 'vessel' are not defined. Therefore, it seems that the Convention has left it to the courts to rule on what structures are 'vessels', and if any type of oil rigs may be treated as vessels for the purpose of the Convention. The Civil Jurisdiction Convention lacks wide support for certain reasons such as its exclusion of all government vessels and the lack of provisions concerning the recognition and enforcement of judgments.[104] Considering the inefficiency of the 1952 Civil Jurisdiction Convention, the Comité Maritime International (CMI) held a session at Rio de Janeiro in 1977 and framed a new Draft Convention on Civil Jurisdiction, Choice of Law, and Recognition and Enforcement of Judgment in Matters of Collision.[105] The Draft was submitted to the Intergovernmental Maritime Consultative Organisation (IMCO) following the Rio de Janeiro Conference; however, it was not taken up by the Legal Committee of the Organisation until 1991 and is not yet in force.[106] Similar to the 1910 Collision Convention and the 1952 Civil Jurisdiction Convention, the Draft Convention does not apply to collision cases in which there are objects other than seagoing vessels.[107] There was a suggestion that drilling rigs should be specifically included, or the terms 'vessel' or 'ship' should be defined broadly to include offshore structures such as oil rigs. However, it was decided to delete such a definition and leave it to the courts to rule on what could be considered as a vessel.[108]

The 1952 Brussels Convention on Penal Jurisdiction in Matters of Collision or Other Incidents of Navigation, also drafted by the CMI, was adopted as a result of the decision of the International Court of Justice in the famous case of the Lotus.[109] The Convention refers to an 'action for collision occurring between seagoing vessels, or between seagoing vessels and inland navigation craft ...'.[110] There is no definition of 'vessel' or 'ship' in the Convention.

The 1972 Regulations for Preventing Collision at Sea were formulated at the International Conference on Safety of Life at Sea, London, 1960. The Convention on the International Regulations for Preventing Collisions at Sea, was also agreed to at London on October 20, 1972, and came into effect in 1977.[111] According to Rule 1(a) of the Collision Regulations: 'These Rules shall apply to all vessels upon the high seas in all waters connected therewith navigable by seagoing vessels'. The word 'vessel' is defined in Rule 3(a) and includes every description of water craft, including non-displacement craft and seaplanes, used or capable of being used as a means of transportation on water. It seems that the definition of 'vessel' includes non-displacement craft and seaplanes. Therefore, we may say that hovercraft, hydrofoils and seaplanes are considered 'vessels' subject to the Rules of the Collision Regulations. This means that a vessel, according to the Collision Regulations, has a broader meaning than a ship. The wide definition for 'vessel' seems to be beyond the definition of some domestic legislation such as the UK Merchant Ship Act of 1894.[112] However, the legal status of an oil rig is still not clear. It has been said that offshore mobile drilling units of any kind would seem to be 'water craft' and therefore fall within the definition in Rule 3(a) of the Collision Regulations.[113] According to another opinion, only certain types of rigs, such as drilling ships, may be considered as 'vessels', while others would not fall within the definition offered by Rule 3(a) of the Collision Regulations.[114]

The 1910 Collision Convention,[115] the 1952 Civil Jurisdiction Convention,[116] the 1952 Penal Jurisdiction Convention,[117] and the 1972 Collision Regulations[118] are the only multilateral treaties which are specifically related to collision.[119]

Considering the various international conventions already mentioned, we conclude in this section that an oil rig, as stated by Professor O'Connell,[120] cannot be considered a ship for the purpose of collisions, according to international conventions, except in the case where the rig is also a drilling ship. However, it seems that most international conventions related to collision have intentionally failed to define the terms 'ship' and 'vessels' to enable the courts to decide each case individually.

3.2.4.3 ILO Conventions The 1926 International Labour Organisation (ILO) Convention Concerning Seamens' Articles of Agreement[121] defined the term 'vessel' as any ship or boat of any nature whatsoever, whether publicly or privately owned, ordinarily engaged in maritime navigation.[122]

The 1920 ILO Convention Concerning Unemployment Indemnity in Case

of Loss or Foundering of the Ship,[123] provides: "the term 'vessel' includes all ships and boats, of any nature whatsoever, engaged in maritime navigation, whether publicly or privately owned".[124]

These definitions, as well as a number of other ILO Conventions' similar definitions of ship, such as the definitions mentioned in the ILO 1921 Convention Concerning the Compulsory Medical Examination of Children and Young Persons Employed at Sea and the 1921 Convention Fixing the Minimum Age for Admission of Children to Employment at Sea (revised 1936)[125] include all types of ships and drilling rigs which are engaged in maritime navigation.[126] Therefore, offshore mobile drilling units of all kinds, including submersible and jack-up rigs, are considered vessels for the purpose of these Conventions. This wide definition, as well as a series of other ILO Conventions' similar definitions, seems to be in line with the ILOs' aim of protecting seamen and safeguarding their work and improving their working conditions.[127] During the time period when those ILO treaties were concluded people who worked at sea were those who worked on board ships. Oil rigs workers are only of recent origin. Indeed, the ILO has to take into consideration the status of oil rig workers in its new conventions. This can be done either by applying those regulations related to ships to oil rigs or by providing a new set of regulations specifically related to oil rig workers.

3.2.4.4 International Conventions Related to Pollution at Sea The International Convention for the Prevention of Pollution of the Sea by Oil,[128] 1954, amended in 1962,1969, and 1971, provides a wide definition of the word 'ship'. For the purpose of the Convention, the term ship means any sea going vessel of any type whatsoever, including floating craft, whether self propelled or towed by another vessel, making a sea voyage.[129] A mobile oil rig, such as submersible, a semisubmersible or a drilling ship, may fall within this definition. However, there would be doubt as to whether it can then be described as 'making a sea voyage'. It has been said that the definition would cover an oil rig being towed.[130] As a solution it may be said that an oil rig cannot be considered as a vessel which makes a sea voyage for the purposes of the Convention when it is on site, however, considered as such it may be when proceeding to or from the site.[131]

The International Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, signed in London on December 29,[132] 1972 in Article III(1)(a) defined 'Dumping' as: '(i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms, or other man-made structures at sea; (ii) any deliberate disposal at sea of vessels, aircraft, platforms or other man made structures at sea'. Article III(2) stated: 'Vessels and aircraft means waterborne or airborne craft of any type whatsoever. This expression includes air cushioned craft and floating craft, whether self propelled or not'. Although all kinds of oil rigs are not included in the definition of 'vessels' in the convention, they would all fall within the expression '... platforms or other man made structures at sea'.

The International Convention for the Prevention of Pollution from Ships, concluded in London on November 2, 1973,[133] with a view to replacing the 1954 Convention, defined a ship as: 'A vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air cushion vehicles, submersibles, floating craft and fixed or floating platforms'.[134] This Convention clearly applies to all kinds of oil rigs. The traveaux preparatoires of the 1973 Convention reveal that there was some discussion as to whether fixed and floating platforms should be included within the definition of 'ship'.[135] The Government of Finland remarked that 'the extension of the word ship to cover all kinds of platforms, drilling rigs, etc, causes unnecessary confusion'.[136] A similar position was held by other governments such as Canada, which proposed an alternative text to excluding platforms engaged in the exploration, exploitation and associated processing of seabed natural resources when they are not in transit.[137] The question of whether fixed and floating platforms should be considered as a 'ship' for the purpose of the Convention was discussed on a number of occasions.[138] The proposals to delete 'fixed and floating platforms' from the definition of 'ship' were defeated at least five times..[139] Finally, at the Tenth Plenary Meeting the proposal for the deletion of the terms 'fixed or floating platforms' was rejected and the final text was adopted.[140]

The International Convention on Civil Liability for Oil Pollution Damage, agreed to in London on November 29, 1969,[141] at the International Legal Conference on Marine Pollution Damage, defines 'ship' as 'any seagoing vessel and any seaborne craft of any type whatsoever, actually carrying oil in bulk as cargo'.[142] Therefore, it seems that this Convention is not applicable to oil rigs. Mobile oil rigs may carry people and certain oil related facilities but they are not constructed to carry oil in bulk as cargo.

The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, concluded at Brussels on December 18, 1971, was the result of a resolution made at the 1969 International Legal Conference on Marine Pollution Damage.[143] Article 1.2 provided that the word 'ship' was to have the same meaning as the definition given by Article 1.1 of the 1969 Civil Liability Convention.

The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, agreed to in London on November 29, 1969,[144] stated: 'Ship means: (a) any sea going vessel of any type whatsoever, and (b) any floating craft, with the exception of an installation or device engaged in the exploration and exploitation of the resources of the seabed and the ocean floor and subsoil thereof'.[145] Oil rigs, of whatever kind, are clearly excluded from the definition of 'ship' in this Convention by virtue of the exclusion of 'an installation or device engaged in the exploration and

exploitation of the resources of the seabed and the ocean floor and the subsoil thereof'. However, mobile drilling units on their way to or from their sites may be considered as floating craft and thereby included in the definition of 'ship' in the Convention.

Oil rigs fall within the scope of the definition of 'ship' provided for by the International Convention for the Prevention of Marine Pollution by Dumping from Ship and Aircraft which was signed in Oslo on February 15, 1972.[146] Article 19.2 of the Convention stated: 'Ship and aircraft means seagoing vessels and air born craft of any type whatsoever. This expression includes air cushion craft, floating craft whether self propelled or not, and fixed or floating platforms'.

The 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area[147] included both floating and fixed oil rigs in its definition of 'ship'. The Convention states that 'ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms'.[148]

Article 2(3) 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation[149] provides that 'ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type'. Although this definition expressly includes submersible oil rigs and may include other types of floating platforms, the Convention by virtue of Article 2(3), does not cover fixed or floating offshore installations or structures engaged in gas or oil exploration, exploitation or production activities, or the loading or unloading of oil.[150]

3.2.4.5 *International Conventions Concerning the Arrest of Ships, the Law of the Flag, Registration of Ships, Bill of Sale, Bottomry and Piracy* The right to arrest a ship is part of the national law of many countries[151] and is recognised by international conventions. The International Convention relating to the Arrest of Seagoing Ships, signed in Brussels May 10, 1952,[152] was agreed to in order to create uniformity in certain rules of law relating to the arrest of sea going ships.[153] Article 2 of the Brussels Convention provides that 'a ship flying the flag of one of the contracting States may be arrested in the jurisdiction of any of the contracting States in respect of any maritime claim, but in respect of no other claim'... Article 1 of the Convention defines the term 'maritime claim' as a claim arising out of one or more of a number of incidents, including damage caused by any ship either in collision or otherwise; salvage; general average; mortgage or hypothecation; loss of life or personal injury caused by any ship; agreement relating to the use or hire of any ship whether by charter party or otherwise; loss of or damage to goods including baggage carried in any ship; and disputes as to the title to or ownership of any ship.

The Convention does not define the word 'ship' and therefore it seems that the question as what seems to be a ship is left to municipal law. Thus, to ascertain whether it is possible to arrest an oil rig, it is necessary to examine the relevant national laws in each particular case.

The 1982 LOSC provided a number of provisions with respect to arrest of ships.[154] Again the Convention neither defines a 'ship' nor makes it clear if oil rigs may be arrested for any purpose.

The survey of the practice of States,[155] undertaken by the Finnish team in the *Great Belt Case*, shows no sign of any arrest by those states which were the subject of the survey.[156] However, since almost all these States treat mobile drilling ships in a manner similar to ships for the purpose of passage through their straits, they may arrest mobile oil rigs as may be necessary to ensure compliance with the laws and regulations adapted by them in conformity with the regulations of international law concerning the arrest of ships. Nevertheless, one may say that the arrest, or detention of foreign mobile oil drilling rigs, is not in conformity with the 1982 LOSC, because the LOSC, although it fails to define 'ships', has made a clear distinction between ships and oil rigs by the creation of a separate category for 'offshore structures and installations'. However, since the LOSC does not provide any regulations with respect to the passage of oil rigs, their registration or whether they should sail under a flag or not, it is conceivable that the individual States may regulate the arrest of oil rigs in their territorial sea, continental shelf and the high seas.

The nationality of States is usually granted to vessels and ships by means of registration and by authorising vessels to fly the States' flag.[157] Vessels must fly a States' flag in order to enjoy its protection and to observe the order and safety of the open sea.[158] However, a flag is only one of the indications of the nationality of a ship. The nationality of a ship can be evidenced when it is accompanied by the ships' papers proving the normal registration of the ship in one of the ports of her flag-state.[159] States followed different rules concerning the sailing of vessels under their flags, and it is not necessary for a ship to have the same nationality and ownership.[160]

In all cases, when the flag is the subject, relevant authorities refer to the flag of a 'ship'. The definition of 'ship', as was discussed before, is not clear. It may be said that the definition of a 'ship' does not appear to be relevant, and offshore oil rigs invariably should have a flag.[161] The logic for this conclusion is that oil rigs must be registered for a variety of reasons including protection and jurisdiction. The concepts of flag and registry are so intrinsically linked that one could say the country of flag and registration are the same.[162] Therefore, a drilling rig should be registered for it to have a flag.[163] However, the analogy with the law of flag could be questionable, particularly when it comes to the question of jurisdiction. Professor

exploitation of the resources of the seabed and the ocean floor and the subsoil thereof'. However, mobile drilling units on their way to or from their sites may be considered as floating craft and thereby included in the definition of 'ship' in the Convention.

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The 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area[147] included both floating and fixed oil rigs in its definition of 'ship'. The Convention states that 'ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms'.[148]

Article 2(3) 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation[149] provides that 'ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type'. Although this definition expressly includes submersible oil rigs and may include other types of floating platforms, the Convention by virtue of Article 2(3), does not cover fixed or floating offshore installations or structures engaged in gas or oil exploration, exploitation or production activities, or the loading or unloading of oil.[150]

3.2.4.5 *International Conventions Concerning the Arrest of Ships, the Law of the Flag, Registration of Ships, Bill of Sale, Bottomry and Piracy* The right to arrest a ship is part of the national law of many countries[151] and is recognised by international conventions. The International Convention relating to the Arrest of Seagoing Ships, signed in Brussels May 10, 1952,[152] was agreed to in order to create uniformity in certain rules of law relating to the arrest of sea going ships.[153] Article 2 of the Brussels Convention provides that 'a ship flying the flag of one of the contracting States may be arrested in the jurisdiction of any of the contracting States in respect of any maritime claim, but in respect of no other claim'... Article 1 of the Convention defines the term 'maritime claim' as a claim arising out of one or more of a number of incidents, including damage caused by any ship either in collision or otherwise; salvage; general average; mortgage or hypothecation; loss of life or personal injury caused by any ship; agreement relating to the use or hire of any ship whether by charter party or otherwise; loss of or damage to goods including baggage carried in any ship; and disputes

as to the title to or ownership of any ship.

The Convention does not define the word 'ship' and therefore it seems that the question as what seems to be a ship is left to municipal law. Thus, to ascertain whether it is possible to arrest an oil rig, it is necessary to examine the relevant national laws in each particular case.

The 1982 LOSC provided a number of provisions with respect to arrest of ships.[154] Again the Convention neither defines a 'ship' nor makes it clear if oil rigs may be arrested for any purpose.

The survey of the practice of States,[155] undertaken by the Finnish team in the *Great Belt Case*, shows no sign of any arrest by those states which were the subject of the survey.[156] However, since almost all these States treat mobile drilling ships in a manner similar to ships for the purpose of passage through their straits, they may arrest mobile oil rigs as may be necessary to ensure compliance with the laws and regulations adapted by them in conformity with the regulations of international law concerning the arrest of ships. Nevertheless, one may say that the arrest, or detention of foreign mobile oil drilling rigs, is not in conformity with the 1982 LOSC, because the LOSC, although it fails to define 'ships', has made a clear distinction between ships and oil rigs by the creation of a separate category for 'offshore structures and installations'. However, since the LOSC does not provide any regulations with respect to the passage of oil rigs, their registration or whether they should sail under a flag or not, it is conceivable that the individual States may regulate the arrest of oil rigs in their territorial sea, continental shelf and the high seas.

The nationality of States is usually granted to vessels and ships by means of registration and by authorising vessels to fly the States' flag.[157] Vessels must fly a States' flag in order to enjoy its protection and to observe the order and safety of the open sea.[158] However, a flag is only one of the indications of the nationality of a ship. The nationality of a ship can be evidenced when it is accompanied by the ships' papers proving the normal registration of the ship in one of the ports of her flag-state.[159] States followed different rules concerning the sailing of vessels under their flags, and it is not necessary for a ship to have the same nationality and ownership.[160]

In all cases, when the flag is the subject, relevant authorities refer to the flag of a 'ship'. The definition of 'ship', as was discussed before, is not clear. It may be said that the definition of a 'ship' does not appear to be relevant, and offshore oil rigs invariably should have a flag.[161] The logic for this conclusion is that oil rigs must be registered for a variety of reasons including protection and jurisdiction. The concepts of flag and registry are so intrinsically linked that one could say the country of flag and registration are the same.[162] Therefore, a drilling rig should be registered for it to have a flag.[163] However, the analogy with the law of flag could be questionable, particularly when it comes to the question of jurisdiction. Professor

O'Connell, in the case of jurisdiction over an offshore oil rig on the high seas, said: 'no law of flag is available and the personal law is the alternative to the lex fori'.[164] He added that if the oil rig is placed in territorial or internal waters then the lex loci delicti would be applied.[165] Therefore, applying the law of the flag to oil rigs, particularly when they are fixed on the seabed, for all legal purposes seems to be controversial.

It is a principle of international law that States must register the names of all private vessels carrying their flag.[166] According to the 1958 Geneva Convention on the High Seas each State must fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag.[167] This statement is repeated in Article 91 of 1982 LOSC. However, the term 'ship' is not defined in either Convention.

The 1986 UN Convention on the Conditions for Registration of Ships[168] defines a 'ship' as 'any self-propelled sea-going vessel used in the international seaborne trade for the transport of goods, passengers, or both with the exception of vessels of less than 500 gross registered tonnes'.[169] This definition, which is based on a functional approach rather than limiting the concept of a ship by reference to certain design characteristics, contains some of the essential elements of the normal description of 'ship' such as being self-propelled and sea-going. Although mobile oil rigs may have some of these elements, such as 'sea-going', they may not be considered ships if they are not used for the transport of goods or passengers.

Therefore it can be concluded that the relevant municipal laws should be considered in order to establish whether international law regulations regarding the registration of ships would apply to oil rigs. As a result of the Offshore Installation (Registration) Regulations, 1972,[170] under UK municipal law, all offshore installations must be registered with the Department of Energy. In countries such as Denmark, Mexico, Norway and the USA, mobile oil drilling rigs are commonly entered upon the same registers as ships.[171]

The issue of registration as it relates to fixed oil rigs is more controversial. In almost all international conventions, fixed oil platforms are excluded from the definition of 'ships'. Therefore, application of the same international regulations regarding the registration of ships to oil rigs is not appropriate. However, fixed oil rigs, particularly if they are erected on the high seas, need to be under the ownership or jurisdiction of a State for certain legal purposes, eg. protection. This issue will be discussed elsewhere in this study.[172]

There are certain other topics which may concern offshore oil rigs in certain aspects such as 'bills of sale' and 'bottomry'.

A bill of sale has been defined as 'a document given with respect to the transfer of chattels, and is used in cases where possession is not intended to be given'.[173] A question may arise as to whether the transfer of an oil rig requires a bill of sale or if it may be transferred without a bill of sale.[174] There is no unique answer to this question because it is not clear if oil rigs are also considered to be ships. It seems that the transfer and ownership of oil rigs would require a bill of sale only if they were legally considered ships.

Bottomry is a contract by which a shipowner borrows money for the purpose of a voyage using the ship as security.[175] It seems that the concept of bottomry is unlikely to apply to oil rigs as they are not used for the purpose of what is called 'voyage'.[176]

Piracy, which means 'an unauthorised act of violence committed by a private vessel on the high seas against another vessel with intent to plunder',[177] is dealt with by Article 15 of the 1958 Geneva Convention on the High Seas and Article 101 of the LOSC.[178]

Piracy by a warship, government ship or government aircraft and the definition of a 'pirate ship' or 'aircraft' is provided by Articles 102 and 103 of the LOSC. However, the term 'ship' is not defined by the Convention. In order to answer the question as to whether oil rigs may commit an act of piracy or an act of piracy may be committed against an oil rig, one would need to look at the definition of 'ship' in the relevant treaties or legislation. Besides international conventions, in the works of publicists[179] the significance of all the definitions is that in piracy a ship must be involved. None of these authorities have referred to the question whether oil rigs may commit an act of piracy or may be the subject of piracy.[180]

3.2.4.6 The 1977 Draft International Convention on Offshore Mobile Craft

The draft International Convention on Offshore Mobile Craft, was adopted by the Comité Maritime International[181] in September 1977.[182] This convention was aimed at applying the regulations of existing maritime conventions on different maritime matters such as arrest, collisions, mortgages, oil pollution, and salvage to any maritime structure of whatever nature not permanently fixed into the seabed, and which are simply termed 'craft'. According to the convention the term craft means: 'Any marine structure of whatever nature not permanently fixed into the seabed which: (a) is capable of moving or being moved whilst floating in or on water, whether or not attached to the seabed during operations, and (b) is used or intended for use in the exploration, exploitation, processing, transport or storage of the mineral resources of the seabed or its subsoil or in ancillary activities'.[183] Articles 2, 3, 4, 5, 6, and 9 of the draft Convention relate to the various subjects, covered by international conventions, such as collision, salvage, arrest, limitation of liability, liens, and oil pollution. According to Article 11: 'If, under any of the conventions applicable pursuant to Articles 2, 3, 4, 5, 6 and 7 or the national rules pursuant to Article 8, nationality is a relevant factor, a craft shall be deemed to have the nationality of the State in which it is registered for title or, if not so registered, the State of its owner.'

The draft convention came in for active consideration again by the IMO Legal Committee in 1990.[184] The Committee decided that the CMI should be required to determine whether the 1977 draft needs to be revised to include the recent developments.[185] At the 1994 CMI Conference in Sydney, a revised version of the 1977 Draft Convention was adopted, however, the Conference established a Working Group and a Committee for the further study and development of an international convention on offshore oil rigs.[186] At the 1977 Conference of the CMI, 'the Committee reported on the responses received from National Maritime Law Associations to a questionnaire distributed by the Working Group. Those responses indicated a broad majority support for further work on a broadly based international convention on Offshore Units'.[187]

3.2.4.7 The 1988 Convention for the Suppression of Unlawful Acts Against the Safety of Navigation The Convention for the Suppression of Unlawful Acts against the Safety of Navigation[188] and the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf[189] have defined both 'ship' and 'offshore unit' in separate sections. The relevant provisions of this Convention are discussed below.[190]

3.2.4.8 The 1989 IMO Resolution No. A.671(16) The IMO Resolution 'A.671(16): Safety Zones and Safety of Navigation Around Offshore Installations and Structures', is similar to a number of post-1985 international treaties[191] intended to make a distinction between ships and oil rigs. It further determines when and under what circumstances oil rigs may be treated as ships for the purpose of the Resolution.[192]

3.2.4.9 The 1958 Geneva Conventions The 1958 Geneva Convention on the High Seas employs the term 'ship' instead of 'vessel', a term which is rarely used in an international convention.[193] However, it fails to provide a definition for 'ship' or 'vessel' for the purpose of the Convention. The International Law Commission abandoned its attempt to provide an interpretation of the term 'ship' in its 1955 session.[194] In the second session (1950), the Special Rapporteur, Mr Francois, proffered a report based on the definition given by Gidel[195] in order to clarify the meaning of 'ship'.

> '... The floating docks, the seaplanes, and in general the floating islands are not assimilated to vessels... Dredgers must be assimilated to vessels as being capable of navigation. There are, possibly, doubts as to the floating cranes and the wrecks'.[196]

Article 6 of the draft Convention, which was formulated after this report,

reads as follows: 'a ship is a device capable of traversing the sea, but not the airspace, with the equipment and crew appropriate to the purpose for which it is used'.[197] However, Article 6 of the draft Convention was deleted by the International Law Commission. This was considered to be a reasonable step taken to avoid further difficulties.[198] It appears that the word 'ship' in the 1958 Geneva Convention on the High Seas should be taken to include all types of ships whatever their size or purpose.[199]

The 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone uses the word ship on a number of occasions[200] without giving any definition of the term 'ship'. The provisions of the 1958 Conventions and their travaux preparatoires do not indicate whether the concept of 'ship' includes most types of oil rigs. However, these were also not expressly excluded from the definition of 'ship'. However, the Geneva Conventions have provided certain provisions with respect to oil rigs which will be discussed later.[201]

3.2.4.10 The 1982 LOSC The 1982 LOSC uses the terms 'ship' and 'vessel' interchangeably but does not define them.[202] Article 1 of the 1982 Convention entitled 'use of terms and scope', defines a number of terms but not 'ship'. In defining the term 'dumping', Article 1(5)(a)(i) states that dumping means 'any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea'. This definition illustrates that the Convention makes a distinction between 'vessels' and platforms or other man-made structures. The 1982 Convention, however, provides a number of provisions with respect to oil rigs, artificial islands and other structures which will be discussed below.[203]

3.2.4.11 Bilateral Treaties The approach taken in multilateral treaties in relation to the definition of 'ship' is followed almost in its entirety by bilateral treaties. Most bilateral treaties refer to the terms 'ship' or 'vessel' without defining them.[204] However, a few treaties have presented a more precise definition of 'ships'. For example, the Agreement between the Government of the Kingdom of Denmark and the Government of the German Democratic Republic Concerning Salvage Operations in the Internal Waters and Territorial Seas of the Kingdom of Denmark and the German Democratic Republic[205] provides that for the purpose of this Agreement 'ship means a vessel of any type which is used at sea, including hydrofoil boats, air cushion vehicles, submarines, floating vessels and fixed or floating platforms'.[206]

3.2.4.12 Conclusion It is apparent that giving a uniform and precise definition which would be valid for the whole field of the law of the sea concerned with matters relating to ships is extremely difficult. Perhaps it is good policy to give every piece of legislation or convention the discretion to

render its own description of 'ship' based on the specific purposes envisioned. However, the difficulties arising from such variegated definitions cannot be denied. It may be said that, similar to municipal law, there are a few common elements in the definitions provided in international conventions and in the practice of States. An obvious example of such a common element is the characteristic of 'being a seagoing vessel'. Nonetheless, the common elements of the definition of 'ship' are not clearly defined. Therefore, describing an oil rig as a seagoing vessel or a navigable craft may be a matter of controversy.

Until the late 1980s, international conventions used to employ the terms 'vessel' or 'ship' without further description or by giving a generalised definition without any significant indication as regards oil rigs. This was mainly based on the fact that oil platforms in the past were not as important in the law of the sea as they have become since the early 1980s. Since then, the treaty policy practice has been changed by a number of international conventions. The 1989 International Convention on Salvage, the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Navigation, the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation and the 1988 Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf, have tried to clearly define 'ships' and determine if oil rigs are ships or not.

It may be concluded that, in general, most types of oil rigs fail to meet the qualities essential to a ship as defined in most international conventions. Therefore, they may be incorporated into some other category, such as artificial islands or in a separate category of their own.

3.2.5 Oil Rigs as Ships in the Practice of States

State practice consists of treaty making practice, municipal legislation, decisions of domestic courts and the manner in which States, in fact, act. The first three categories, with respect to oil rigs, have already been discussed in detail. Turning now to state practice, we will consider how a number of States treat oil rigs in movement through their territorial waters relative to the rights of innocent passage.

In the case concerning *Passage Through the Great Belt (Finland v Denmark)*,[207] a questionnaire was sent to a number of major straits States[208] by the Finnish team, with respect to the treatment of the passage of oil rigs in straits and their territorial seas.[209] In all cases mobile oil drilling rigs such as drill ships, semisubmersibles or jack-up barges were treated in exactly the same manner as merchant ships of conventional design.[210] No case was reported in which the permission of the coastal State was required for the mobile oil drilling rigs to pass through a strait or territorial waters.[211] No

evidence was found that a single State would have contested the right of mere passage by mobile oil rigs. The Turkish reply to the questionnaire indicates that mobile oil drilling units are regarded as ships by Turkish law when they are self-propelled. However, it was stated that no mobile oil drilling rigs have passed through the Turkish straits during the past 20 years.[212]

The actual practice of States confirms that mobile oil drilling rigs are considered ships for the purpose of innocent passage and navigation. This does not mean that the actual practice of States confirms that mobile oil drilling units are ships for all purposes.

3.2.6 Conclusion

To answer the question whether oil rigs are ships in international law, it was seen that different definitions of 'ship' and 'vessel' are given according to the different aims of the various conventions, treaties, international regulations and municipal laws. Furthermore, as was discussed above, there are no uniform rules, or common set of standards as to what objects may qualify for the juridical status of a ship in both municipal and international law. The actual practice of States in certain situations, such as registry and innocent passage, indicates that mobile oil rigs are treated like ships for legal purposes.

In both international and municipal law there are at least a few characteristics which pertain only to ships: moveability; seagoing ability; being used for transport of passengers and/or goods; navigability; and navigation. Some of these elements, such as seagoing and navigation, are to be found more frequently than others. In a number of situations, for instance, collisions, flag, registry, etc, as discussed above, an oil rig may be considered as a ship for certain legal purposes.

Drilling ships are considered by many municipal acts and treaties as ships. They have almost all the characteristics of a 'ship', including the dictionary qualifications, as they have a ship like shape and a hollow receptacle, capability of navigation and other required qualifications. However, there is some doubt concerning their qualifications as a ship when they are engaged only in drilling activities. Other types of mobile oil rigs may be treated as ships for certain legal purposes. Some types of oil rigs, such as fixed oil rigs, however, appear not to qualify for the juridical status of a ship in both domestic and international law. Nonetheless, they have been occasionally considered as a ship by certain national legislation and international treaties.

3.3 Oil Rigs as Artificial Islands

In order to determine the legal status of oil rigs, an alternative is to incorporate them into the category of artificial islands. The logic behind this classification is the fact that certain international conventions, such as the 1982 LOSC, have treated artificial islands and offshore installations with similar provisions, and certain other international treaties, as we will see here, have defined oil rigs as artificial islands. However, this may not be appropriate as artificial islands and oil rigs may each have their own international legal issues with respect to jurisdiction, pollution and other legal matters.

An artificial island can be described as an artificial deposit made from soil and rocks in the sea.[213] An island is a naturally-formed area of land, surrounded by water which is above water at high-tide.[214] An artificial island is a non-naturally formed structure, permanently attached to the seabed, surrounded by water and placed above water at high-tide.[215] It has been defined as a construction created by the dumping of natural substances such as sand, rocks and gravel on the seabed which cannot be removed without loss of its identity.[216]

According to the LOSC artificial islands 'do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf ...'.[217]

The doctrine that delimitation of the territorial sea cannot be affected by artificial islands was also accepted by the 1958 Geneva Convention on the Continental Self.[218] Although, a claim was made by some[219] that certain kinds of artificial islands did generate a territorial sea, it has been rejected by various publicists,[220] by the Institute de Droit International[221] and by the practice of States.[222] The International Law Commission (ILC) in section (2) of its Commentary on Article 10 Concerning the Law of the Sea (1956), stated that an island is to be any part of land surrounded by water which usually is permanently above high-water.[223] The Commission then provided that technical offshore installations, such as oil rigs, are not considered islands and have no territorial sea.[224] However, the Commission proposed that a safety zone around offshore installations should be recognised 'in view of their extreme vulnerability'.[225] The position of the ILC was endorsed in its entirety at the 1958 Geneva Conference.[226] The legal logic behind this conclusion is the fact that the recognition of a territorial sea for artificial islands and oil rigs would endanger the freedom of the high seas.[227] Considering the possibility of the construction of various artificial islands on the high seas by advanced technology, the recognition of a territorial sea for such islands would, undoubtedly, constitute a distinct limitation on the freedom of the high seas. Countries with advanced technological and economic power could allocate a large part of the high seas to their territory through the construction of artificial structures on the high seas.

The legal status of artificial islands poses difficult questions since they are neither islands nor ships in international law. However, for some purposes, they may be incorporated into islands or considered as ships.[228] International conventions and treaties do not define the term 'artificial islands'. The LOSC provides that 'in the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorise and regulate the construction, operation and use of: (a) artificial islands ...'.[229] However, the Convention does not define the term, 'artificial island'. It seems difficult to elaborate a comprehensive definition of 'artificial islands', particularly because of the rapid changes brought about by modern technology and the multiple purposes for which artificial islands are used.[230]

Oil rigs, on the other hand, refer specifically to two types of installations; those resting on the sea floor and fixed there by means of piles or tubes driven into the sea floor, or fixed there by their own weight; and installations which are mobile being either self propelled or towed.[231] Depending on the circumstances, sometimes it is difficult to distinguish whether a specific artificial installation is in actuality an artificial island or an offshore installation. It would appear that the LOSC does not make any distinction as to the application of international law to artificial islands or offshore installations. In general, the Convention, has used both terms simultaneously.[232] Nevertheless, it can be understood from the provisions of Articles 56 and 60 of the LOSC that the category of 'artificial islands' is theoretically larger than that of 'offshore installations'. Artificial islands may be constructed for any purpose, while offshore installations are constructed only for the purpose of exploring and exploiting, conserving and managing, the natural resources whether living or non-living of the sea and the seabed and its subsoil and for other economic purposes. Offshore prisons, artificial reefs, and military installations are examples of artificial islands.

Several other conventions have also treated certain kinds of artificial islands and fixed oil rigs as the same for specific legal purposes. For instance, the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf[233] states that "for the purpose of this Protocol, 'fixed platform' means an artificial island, installation or structure permanently attached to the seabed for the purpose of exploration or exploitation of resources or for other economic purposes".[234] The Protocol considers both an artificial island and an oil rig attached to the seabed for the purpose of exploration and exploitation of the natural resources of the sea as a 'fixed platform' and treats them as the same for the purpose of the suppression of unlawful acts against their safety.

In conclusion, it would appear inappropriate to include oil rigs in the

category of artificial islands. The legal status of artificial islands is not yet clarified in international law. In addition, there is no comprehensive definition for artificial islands in international conventions and treaties which would allow the formulation of a legal framework for artificial islands. Indeed, as it appears now, from an international legal perspective, there are more regulations and laws related to installations for the exploration and exploitation of the natural resources of the sea than there are for artificial islands. The many different aspects of oil rigs, as a part of installations for the exploration and exploitation of natural resources of the sea, including the safety of these installations, the rights and obligations of states, jurisdictional question, their removal and interference with international navigation, have all been the subject of international disputes and international law. Furthermore, the legal nature of the issues which arise from questions relating to oil rigs and artificial islands may, in many instances, be different. Therefore, it seems reasonable at this time to explore the international legal framework surrounding oil rigs, and the relevant practice in international law, instead of incorporating them into the category of artificial islands.

3.4 Oil Rigs as a Separate Category

In order to formulate a legal framework for oil rigs, another option would be to describe 'oil rigs' in a specific category of their own.[235] This means that they are offshore installations for the purpose of the exploration and exploitation of oil and gas from the sea which are neither ships nor islands in international law. However, in particular cases, they might be considered either a ship, such as a drilling ship, or an artificial island, such as certain permanent installations for the storage of oil at sea.

The 1958 Geneva Convention on the Continental Shelf and the 1982 LOSC provide certain regulations concerning special aspects relating to installations for the purpose of the exploration and exploitation of the natural resources of the sea. The 1958 Geneva Convention on the Continental Shelf has, more or less, created a separate legal category for maritime structures which are neither ships nor islands. According to Article 5(2) of the Continental Shelf Convention '... the coastal State is entitled to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and the exploitation of its natural resources, and establish safety zones around such installations and devices and to take in those zones measures necessary for their protection'. The Convention does not define the term 'installation and other devices'. It does provide that 'such installations and devices, though under the jurisdiction of the coastal State, do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea of the coastal State'.[236]

An attempt was made elsewhere to create a separate legal category for offshore installations for the purpose of the exploration and exploitation of the mineral resources of the sea.[237] During the preparation for the Draft Convention on Ocean Data Acquisition Systems, Aids and Devices (ODAS) it was proposed that '... platforms and installations for the exploration and exploitation of the continental shelf ...' must be covered by the same legal status contemplated for ODAS.[238] Therefore, offshore installations were considered neither artificial islands nor ships. However, this sentence was finally deleted from the final definition of ODAS in the Draft Convention.[239]

The Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources, adopted in London on December 17, 1976[240] referred to offshore installations as a separate category and provided a detailed definition of the term 'installation'. Under this Convention the operator of an 'offshore continental shelf installation' causing pollution incurs strict liability for the damage and remedial measures taken, with the exceptions of damage resulting from war, an act of God, an abandoned well more than 5 years after it was abandoned, or from an intentional or negligent act done by the person suffering damage.[241] Article 1.2 of the Convention describes 'Installation' as:

> (a) any well or other facility, whether fixed or mobile, which is used for the purpose of exploring for, producing, treating, storing or transmitting or regaining control of the flow of crude oil from the seabed or its subsoil; (b) any well which has been used for the purpose of exploring for, producing or regaining control of the flow of crude oil from the seabed or its subsoil and which has been abandoned; (c) any well which is used for the purpose of exploring for, producing or regaining control of the flow of gas or natural gas liquids from the seabed or its subsoil ...; (d) any well which is used for the purpose of exploring for any mineral resources other than crude oil, gas or natural gas liquids ...; (e) any facility which is normally used for storing crude oil from the seabed or its subsoil; (i) where a well or a number of wells is directly connected to a platform or similar facility, the well or wells together with such platform or facility shall constitute one installation; and (ii) a ship as defined in the International Convention on Civil Liability for Oil Pollution Damage, done at Brussels on 29 November 1969 shall not be considered to be an installation.

This definition includes all types of both mobile and fixed oil rigs. It expressly excludes ships from the scope of the term 'installation'.

In the recent decade, a trend has been created in both national legislation and international treaties to define and describe the 'legal situation of oil platforms' as a separate category. For example, the South Korean Marine

Pollution Act, as amended, 30 December 1989[242] in Article 2(5) defines 'ship' as a 'vessel of any type operating for navigation in the ocean'. Certain types of oil rigs, such as drilling ships, may still fall within the category of vessel. However, the Act in the same Article, Sub-section 7, defines 'offshore facility' as 'a structure constructed in the sea areas or by connecting the sea areas ...'. Although the second definition, Article 2(7), may only include certain types of oil rigs which are fixed to the seabed, it demonstrates that the legislation considered a separate category for certain offshore facilities including certain types of oil rigs.

The 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation[243] has created a separate category for oil rigs beside the category of ships. 'Ship' and 'offshore unit' are defined in two separate sub-sections of Article 2 of the Convention. According to Article 2(3); "'Ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type". Article 2(4) of the Convention defines "'offshore unit' as any fixed or floating offshore installation or structure engaged in gas or oil exploration, exploitation or production activities, or loading or unloading of oil". Although, the definition of 'ship' in Section 3 of the Article includes different kinds of oil rigs such as drilling ships and submersibles, defining 'offshore units' in a separate section illustrates that the Convention has firstly drawn a line between oil rigs and ships and secondly, it has placed oil rigs in a separate category being neither a ship nor an artificial island. Therefore, it might be said that, in view of the Convention, oil rigs have been considered to be a separate category. However, certain floating rigs may be treated as ships when they are not engaged in the exploration and exploitation of oil and gas, for certain legal purposes. The definition of 'offshore unit' in Article 2(4) was originally proposed in the Draft Convention as follows: 'Offshore Platform' means any fixed or floating offshore platform engaged in gas or oil exploration and exploitation[or production] activities [or loading or unloading oil] [in areas subject to the jurisdiction of parties].[244]

The Drafting Committee amended that definition by deleting the last part of the definition. The definition then read:

'Offshore platform' means any fixed or floating offshore platform engaged in gas or oil exploration, exploitation or production activities, or loading or unloading oil.[245]

In the final draft, which was accepted by the Convention, in the current text of Article 2(4), the category was changed from 'offshore platform' to 'offshore unit', perhaps to include those offshore structures which may not be considered platforms such as offshore oil storage facilities and even drilling ships when they are engaged in the exploration and exploitation of oil and gas.[246]

The 1988 Convention for the Suppression of Unlawful Acts against the Safety of Navigation[247] defines 'ship' as 'a vessel of any type whatsoever not permanently attached to the seabed, including dynamically supported craft, submersibles, or any floating craft'.[248] The Convention draws a line between a vessel of any type which may include some kinds of mobile oil rigs, such as submersibles, and oil rigs which are 'permanently fixed' to the seabed such as installations for the purpose of the exploration and exploitation of the natural resources of the sea attached to the seabed. The latter is covered by the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf.[249] Article 1(3) of the Protocol defines 'fixed platform' as 'an artificial island, installation or structure permanently attached to the seabed for the purpose of exploration or exploitation of resources or for other economic purposes'.

The term 'fixed platform' as defined in the Protocol, and the term 'ship' as defined in the Convention, may still be confused. It is not clear if a fixed oil rig towed to a place to be attached to the seabed in order to engage in the exploration and exploitation of the natural resources of the sea would be considered to be a ship or a 'fixed platform'. The definition of 'ship' in Article 1 of the Convention remained unchanged from the proposal in the Draft prepared by the Ad Hoc Preparatory Committee.[250] However, it was the subject of some comments given by the delegations of a number of countries. The Australian delegation, arguing that the term 'fixed platform' had to be defined more clearly, proposed that the preferred form of Draft Article 1 should read as follows: "For the purpose of the Convention 'ship' means a vessel of any type whatsoever (other than a fixed platform within the meaning of the Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf), not permanently attached to the seabed, including a dynamically supported craft, submersible, or any other floating craft or structure, whether capable of navigating under its own power or not".[251] The Malaysian delegate commented on Article 1 of the Draft Convention as follows: "... the use of the word 'permanently' may possibly give rise to some problems of interpretation. For example, jack up rigs may not 'permanently' be attached to the seabed, but are attached to the seabed. However, they may be moved from place to place. They are nevertheless considered to be platforms".[252] Finally, the words 'permanently attached' were retained in the definition of 'ship' in both Articles 1 of the Convention and Article 1(3) of the Protocol.

The Convention and Protocol treat oil rigs operating on location, but not permanently attached to the seabed, as ships. This position is unprecedented in treaty practice in international law. The generally accepted position in international treaties has been to regard oil rigs as ships when they were navigating from one drilling location to another or when they were carrying rigs and other offshore facilities, but not when they were operating on

location.

The 1988 Convention and its Protocol have clearly made a distinction between the terms 'ship' and 'fixed platform'. The category of fixed platform includes fixed oil rigs and artificial islands for the purpose of the exploration or exploitation of the resources of the sea and other economic purposes. Therefore, the Convention has made a separate legal category for certain kinds of oil rigs.

The 1989 International Convention On Salvage[253] defines a 'vessel' for the purpose of the Convention as 'any ship or craft, or any structure capable of navigation'.[254] The word 'any' before the word 'structure' makes it clear that offshore structures are considered as vessels for the purpose of the Convention if they are capable of navigation. However, the Convention provides some specific provisions in relation to oil rigs in Article 3 which is entitled 'Platforms and Drilling Units'. According to Article 3, 'this Convention shall not apply to fixed or floating platforms or to mobile offshore drilling units when such platforms or units are on location engaged in the exploration or production of seabed mineral resources'. The last part of Article 3, which makes the Conventions' provisions inapplicable to a situation where oil platforms and drilling units are engaged in the exploration or production of seabed mineral resources, shows that oil rigs are not excluded absolutely from the application of the Convention. In other words the Convention does not apply to fixed oil rigs. However, if mobile offshore drilling units which are on location are engaged in the exploration and exploitation of seabed mineral resources, they are also excluded from the application of the Convention even if they are capable of navigation, subject to 1(b). Nonetheless, it can be said that if mobile offshore oil rigs, which are not on location, are engaged in exploration and exploitation activities, they may be subject to the provisions of the Convention. For example, drilling units which are passing through a strait, or moving towards specific destinations without engaging in the exploration and exploitation of the natural resources of the sea, are still subject to the provisions of the Convention. The Convention has clearly placed oil rigs into a separate legal category as platforms and drilling units.

In its preamble, the IMO Resolution A.671(16): Safety Zones and Safety of Navigation Around Offshore Installations and Structures, states:

> Being aware that safety zone regulations are applied by coastal States to protect mobile offshore drilling units on station, production platforms, units and ancillary equipment referred to herein as installations or structures.

In describing mobile offshore drilling units the Resolution, again in its preamble, further provides:

> For the purpose of this resolution mobile offshore drilling units (MODUs) used for exploratory drilling operations offshore are considered to be vessels when they are engaged in transit and not engaged in a drilling operation, but are considered to be installations or structures when engaged in a drilling operation.

The IMO Resolution considered only those offshore mobile drilling units which are used for exploratory purposes as vessels when they engaged in transit. Therefore, other types of oil rigs, including fixed oil rigs, and those mobile rigs which are engaged in drilling operations and the exploitation of oil and gas, are considered to be in a separate category as offshore 'installations or structures'.

Although incorporating oil rigs into their own category in both domestic and international law is of recent origin, it has been previously considered in a few examples of legislation and case law. In the UK Continental Shelf Act 1964, in relation to the application of the criminal and civil law on board oil installations, oil rigs were subject to their own separate provisions, different from those relating to a ship.[255]

In *Merchants' Marine Insurance Co Ltd v North of England Protecting and Indemnity Association*[256] a number of important points were made in relation to the legal status of a pontoon. That argument may be applicable to other sea objects such as oil rigs as well. In this case, an indemnity was claimed against the liability incurred for damages arising out of a collision between the steamer Fernhill with a pontoon crane in the River Charente. Mr Justice Roche, said:

> In my judgment, having regard to the facts relating to this pontoon, this pontoon is not a 'ship' or vessel but is another movable thing. . . in my view the primary purpose for which this pontoon is designed and adapted is to float and to lift, and not to navigate. Whatever other qualities are attached to a ship or vessel, the adaptability for navigation, and its usage for that purpose, is in my judgment one of the most essential elements.[257]

Finally, as was stated above, the 1982 LOSC placed oil rigs in a separate category from both ships and artificial islands. The LOSC considered oil rigs as installations and structures for the purpose of the exploration and exploitation of the natural resources of the sea and other economic purposes.[258]

3.5 Oil Rigs Under the 1982 LOSC

The 1982 LOSC provided certain rules and regulations in relation to artificial

islands, offshore installations and structures for the purpose of the exploration and exploitation of the natural resources of the sea and other economic purposes.[259] The Convention used various expressions to describe 'artificial islands, installations and structures' in a number of Articles. In addition to using 'artificial islands, installations and structures'[260] it also referred to 'installation',[261] 'installations and devices',[262] and 'installations, structures and other devices'.[263] However, it did not define the terms 'artificial islands', 'installations' and 'structures'.

During the negotiation of the Convention in the UNCLOS III (1973–1982) at the resumed ninth session in 1980, the Drafting Committee reported that it was considering the inclusion of a new subparagraph in Article 1 of the Convention which would read as follows: "'installations' includes artificial islands and structures".[264] This proposed change was not accepted by the Conference.[265] A similar approach was taken to define the term 'installations' during the negotiations regarding Article 60 at the 1973 session of the Seabed Committee. The United States of America prepared a draft article which included provisions on offshore installations with the intention to define the term 'installations'.[266] The United States' proposal Article 5 (a) read:

> For the purpose of this chapter, the term 'installations' refers to all offshore facilities, installations, or devices other than those which are mobile in their normal mode of operation at sea.[267]

However, this proposal, similar in nature to the attempt to define 'installation' in Article 1, was not accepted by the Conference. There is currently an inconsistency in the use of the different expressions used to refer to installations in the LOSC. Nevertheless, Articles 60 and 80, which include the main body of provisions regarding oil installations, have made a distinction between offshore installations for the purpose of the exploration and exploitation of the natural resources of the sea and other economic purposes, primarily oil rigs, and artificial islands. Nonetheless, the exact meaning of each category is still unclear. Certain kinds of installations for some economic purposes, such as an offshore hotel, may be considered either an artificial island or a structure for the purpose of tourism. The Convention has resolved the problem by applying a similar legal regime to both artificial islands and offshore installations and structures. However, considering the significant increase in the number of both artificial islands and other offshore installations, and the complex legal issues which may arise with respect to each category, a different legal regime is required. There is no doubt that the legal issues concerning an offshore one hundred storey hotel, and an offshore oil rig in relation to such legal matters as jurisdiction and pollution, would not be the same or of a similar nature. Therefore, it is appropriate that

domestic legislation and international conventions take this into consideration and separate and clearly define the terms 'artificial islands' and 'offshore installations'. Further, it would be adequate if offshore oil rigs and other offshore installations could be separated and put into two categories each with their own legal provisions. This means that ultimately there should be three categories: 'artificial islands'; 'offshore installations for the purpose of the exploration and exploitation of the natural resources of the sea other than oil and gas'; and, 'oil rigs', which are offshore installations for the purpose of the exploration and exploitation of oil and gas.

According to Article 11 of the Convention 'For the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast. Offshore installations and artificial islands shall not be considered as permanent harbour works'. The first sentence is a copy of Article 8 of the 1958 Convention on the Territorial Sea and the Contiguous Zone. The second sentence was added to the provisions of the LOSC in UNCLOS III at the third session in 1975.[268] The reasoning behind the new provisions was to make a clear distinction between offshore loading and unloading points, and permanent harbour works.[269] The expression mentioned in the second sentence does not apply to offshore installations, which lie outside the territorial waters, and are subject to Articles 60 and 80.[270] However, it does apply to installations which are used for the purposes of ports for large vessels unable to enter harbours and are linked to shore facilities by pipelines.[271]

The rights, jurisdiction and duties of the coastal State in the exclusive economic zone in relation to offshore installations is set forth in Articles 56 and 60 of the Convention. According to Article 56, in the exclusive economic zone the coastal State has sovereign rights for the purpose of exploring and exploiting the waters superjacent to the seabed and of the seabed and its subsoil and jurisdiction over the establishment and use of artificial islands, installations and structures.[272]

Article 60, which is entitled 'Artificial islands, installations and structures in the exclusive economic zone', provides that, 'in the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorise and regulate the construction, operation and use of: (a) artificial islands; (b) installations and structures for the purpose provided for in Article 56 and other economic purposes'.[273] The coastal State has jurisdiction over artificial islands, offshore installations and structures with regard to customs, fiscal, health, safety and immigration laws and regulations.[274] This jurisdiction, subject to Article 60, is related to installations in the exclusive economic zone. However, coastal and land-locked States have the right to construct offshore installations in the high seas as well.[275] The coastal State can establish reasonable safety zones around offshore installations to ensure

the safety both of navigation and of the installations.[276] 'The breadth of the safety zone shall be determined by the coastal State, taking into account applicable international standards. Such zones shall be designed to ensure that they are reasonably related to the nature and function of the artificial islands, installations or structures, and shall not exceed a distance of 500 metres around them ....'[277] Offshore installations, however, do not possess the status of islands.[278] The LOSC has also provided certain regulations concerning environmental problems,[279] interference to international navigation[280] and conflict with other marine biota such as fishing[281] in relation to the offshore installations which will be discussed in the next few chapters.

Article 60, which is the main part of the LOSC, concerned with oil rigs, is based on the provisions of Article 5 of the 1958 Geneva Convention on the Continental Shelf.[282] The provisions of Article 5 of the Continental Shelf Convention refer to 'installations and other devices' for the purpose of the exploration of the continental shelf and its natural resources.[283] The Article does not refer to artificial islands and obviously does not define the terms 'installations and other devices'. Furthermore, the Continental Shelf Convention does not make any difference between oil rigs and artificial islands.

It seems that the LOSC, similar to the Geneva Convention on the Continental Shelf, has, more or less, created a distinct legal category of offshore installations for the purpose of exploration and exploitation of the natural resources of the sea in which they do not possess the status of islands, and they remain under the jurisdiction of the coastal State. However, these installations do not have a territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf. Oil rigs are the main body of offshore installations for the purpose of the exploration and exploitation of the natural resources of the sea.

3.6 Conclusion

In international law, an offshore oil rig may be considered as a ship in certain instances. Oil rigs are also constructed in various forms, ie. floating, fixed or both. Some of these, such as drilling ships, have more of the characteristics of a ship than others. However, various international conventions, treaties, regulations and municipal laws have provided different definitions of 'ship' based on different purposes. Therefore, there is not a unified definition of 'ship' in international law.

In order to clarify the legal status of oil rigs, an alternative approach would be to include them in the category of artificial islands. However, the legal status of artificial islands is not clear either. Furthermore, artificial islands and oil rigs may be established for different purposes and each has its own functions. Therefore this may give rise to different legal issues. Moreover, in recent years, various artificial islands have been created or are in the process of establishment, such as floating hotels and sea cities, which apparently have a completely different legal nature in comparison to oil rigs. Finally, international conventions and national legislation have rarely considered oil rigs as artificial islands although they may have applied similar legal regimes to both.

The 1958 Geneva Convention on the Continental Shelf and the 1982 LOSC have to some extent created a separate legal category for offshore installations and structures for the purposes of exploration and exploitation of natural resources of the sea, and other economic purposes, which are considered neither ships nor islands. Offshore oil rigs are the main instance of installations and structures for the purpose of exploration and exploitation of natural resources of the sea subject to the 1982 LOSC. This approach has been rightly followed by domestic legislation and international treaties in recent years, in attempts to describe oil rigs, distinguishing them from ships and vessels. However, the LOSC does not make any distinction between offshore oil rigs and other offshore installations and treats them as one and the same.

It is proposed that, considering the significant increase in the number of both artificial islands and all kinds of offshore installations, and keeping in mind the various complicated legal issues which may arise from the construction and use of either of these two categories, as well as the category of 'ships', it is necessary for both international treaties and national legislation to clearly define 'ships', 'artificial islands' and 'offshore installations'. Furthermore, the term 'offshore installations' should, in the future, be divided into two separate categories: the category of 'offshore installations for the purpose of exploration and exploitation of natural resources of the sea other than oil and gas and for other economic purposes;' and, the category of 'oil rigs'. This will facilitate the resolution of serious legal issues arising from the growing use of artificial islands, offshore installations and oil rigs.

Notes

1. The same question could be raised concerning the situation of artificial islands and other offshore installations. This has been discussed by N Papadakis. See N Papadakis, *The International Legal Regime of Artificial Islands*, Sijthoff (1977) pp 89-115. See also DHN Johnson, 'Artificial Islands' (1961) 41 *LQR* 230-245; CJ Colombos, *The International Law of the Sea*, Longman (1967) pp 125-127; and

Council of Europe, 'Report on the Legal Status of Artificial Islands Built on the High Seas' Consultative Assembly Doc 3054, 1971.

2. *Passage through the Great Belt (Finland. v Denmark)*, 1991 ICJ, ILR (1994) vol 94 at 446.
3. In this case, Finland filed an application against Denmark in the International Court of Justice arguing that a Danish plan to build a high-level bridge over the main navigational channel of the Great Belt Strait would make it impossible for drill ships and oil rigs which had deep draughts and required a clearance of more than 65 metres to enter and leave the Baltic. Finland further contended that the Great Belt was a strait used for international navigation and that there was a right of free passage through it for all vessels including mobile offshore drilling rigs. On the other hand, Denmark denied that the right of passage would apply to oil rigs, as it did not consider them to be ships. For a commentary on this case see M Koskenniemi, 'Case Concerning Passage Through the Great Belt' (1996) 27 *ODIL* 255.
4. M Summerskill, *Oil Rigs: Law and Insurance*, Stevens & Sons (1979) p 12.
5. See B Meyer, *The Nationality of Ships*, University of Chicago Press (1967) p 15, in which the author says: 'water-tight definitions do not exist even for ships ...'.
6. See for example, Australia: 1968-1973 Continental Shelf (Living Natural Resources Act), Art 5(1), 1989 Prevention of Collisions, Marine Order No 5, Rules 3(a), *1981* Shipping Registration Act, Section 3(1); Canada: 1934 Admiralty Act, 2(i), 1932 Fisheries Act, 2(f), 1953 Coastal Fisheries Protection Act, 2(d); Cook Islands: 1977 Territorial Sea and Exclusive Economic Zone Act, 2(1); Denmark: 1972 Custom Act, Chap 2, Art. 3(1); Ethiopia: 1953 Maritime Proclamation No 137, 6(b); Finland: 1983 Law on the Prevention of Pollution from Ships, Art. 1: France: 1976 Loi N 76-600 (on pollution), Art. 1(2); Greece: 1910 Act on Maritime Commerce, Art. 226, Law of Private Maritime Law, Law 3816/1958, Art 1; Ireland, 1959 Maritime Jurisdiction Act, Sec 1, 1937 Sea Fisheries Act, Sec 1; Italy: 1940 Lege N 1424, Art. 34; Japan: 1970 Marine Pollution Prevention Law, Art. 3; Korea (South): 1989 Marine Pollution Act, as amended, Arts. 2(5) and 2(7), 1987 Marine Accidents Inquiry Act, as amended, Art. 2(3), 1986 Ocean Traffic Safety Law, Sec 1; Libya: 1953 Marine Code, Art. 1; Malta: 1977 Marine Pollution Act No XII, Sec 2(1); Morocco: 1919-1953 Code de Commerce Maritime, Art. 2; New Zealand: 1977 Act No 125, Tokelau Territorial Sea and Exclusive Economic Zone, Sec 2 (Interpretation); Norway: 1966 Custom Act, Arts. 1(2) and 1(3); Poland: 1961 Maritime Code Act, Art. 3(2); Romania: 1972 Decree on Civil Navigation. No 443, Arts. 7,8 and 9; South Africa: 1991 Public Health Act, Sec 70; Spain: 1977 Act No 21(Dumping from Ship or Aircraft) Art 1(3); Tonga: 1970 Continental Shelf Act, Sec (6); United Kingdom: 1984 Merchant Shipping Act, Art. 742, 1968 Fisheries Act Art 19(1), 1964 Fisheries Limits Act, Art. 3(1), 1956 Administration of Justice Act, Sec 8(1); USA: 1977 Navigation Rules Act, Sec 2, 1975 Public Law 93-627, Sec (19); Venezuela: 1944 Shipping Act, Art. 19; Western Samoa: 1977 Exclusive Economic Zone Act, Sec 2 (interpretation). See the Memorial of the Government of the Republic of Finland, filed with the LCJ in the case, Passage through the Great Belt, 1991 (hereinafter the Memorial of Finland), Maps and Annexes, Annex 80.

7. For example, within the legal system of the United Kingdom, a boat propelled by oars is not considered a ship according to section 742 of the Merchant Shipping Act, 1894, UK. However, it is a 'ship' within the definition of the Shipbuilding Industry Act, 1967, UK.
8. The following legislation makes the tonnage part of the definition of a ship or classifies different types of ships according to the tonnage: Argentina: National Coastal Merchant Shipping Act, No 12980, 1944; Greece: Decree of 14 November 1836 Concerning Merchant Shipping, and Commercial Code (amendment) Act No 3717 of 1910; Japan: Shipping Act of 1899, amended to 1954 and Ordinance No 24 of 12 June 1899 (as amended); Liberia: Maritime Code of 18 December 1948 as amended 22 December 1949 and Maritime Regulations, to and including 15 May 1953; Norway: Shipping Act of 20 July 1893 and Ships Registration Act of 4 May 1901; UK: Merchant Shipping Act of 25 August 1894; USA: United States Code (1952) and Code of Federal Regulations (1953). See United Nations Legislative Series, Laws Concerning the Nationality of Ships (1955), Document ST/ LEG/ SER/. B/5/Add.1.
9. See the Australian *Navigation Act* 1912 (Cth), section 6; the Australian *Shipping Registration Act* 1981 (Cth), section 3(1); the Canadian Admiralty Act 1934 section 2(I); and the United Kingdom Merchant Shipping Act, 1894, section 742.
10. Many merchant shipping acts require that a ship must be able to transport passengers and goods. See: Italy, Shipping Code of 30 March 1942 and Regulation No 328 of 15 February 1952; Finland Shipping Act No 167 of 9 June 1939; Panama, Law No 8 of 12 January 1925, Establishing Procedure for the Nationalisation and Measurement of Vessel, and Prescribing other Measures.
11. According to the Argentina National Coastal Merchant Shipping Act, Art 55 (1) a ship is a vessel 'made of wood, iron, or other material, which floats and is capable, when propelled and directed by suitable internal or external mechanism, of transporting by water persons or objects or of being used as a store or in commercial or industrial operations'.
12. See G Lazaratos, 'The Definition of Ship in National and International Law' (1969) 22 *RHDI* 57 at 58.
13. M Summerskill, note *supra*, p 13.
14. The *Oxford English Dictionary*, Clarendon Press (1933, reprinted 1961 and 1970) vol 9.
15. *Ibid*, p 704.
16. *Websters' Third New International Dictionary*, G & C Merriam Company Publishers (1966).
17. *Ibid*, p 2547.
18. In English statutes the word 'ship' is regarded both as wider or narrower than the

expression vessel. See the Merchant Shipping Act 1894, UK, section 240 and the Crown Proceeding Act, 1947, section 30. In US statutes the term 'vessel' has a wider definition (46 US Code Chapter 23, Shipping Act 1916, UK, (section.801). In Australian legislation the term 'vessel' is considered to be broader than 'ship' (the Shipping Registration Act 1981, section 3910 and the Merchant Shipping Act, 1894, Australia, section 742).

19. G Lazaratos, note *supra*, at 64.
20. M Summerskill, note *supra*, p 13.
21. DD Caron, Ship, Nationality and Status, in R Bernhardt, II Encyclopedia of Public International Law, Elsevier Science Publisher (1989) 289 at 29.
22. The words 'ship' and 'vessel' correspond to a single word in Spanish, *buque*, and in French, *navire*. However, in Arabic two words, *Safinah* and *Folk*, are used to describe both ship and vessel.
23. The following paragraph was proposed to be inserted in Art 1 of the LOSC: (8) "'Ship' and 'vessels' have the same meaning". See, A/CONF 62/L.57/Rev 1 (1980), section VII, 'Other recommendations ... ,' para (o), at 126, and Informal Paper 14 (1980, mimeo), at 1 (Drafting Committee) as discussed by SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, a Commentary*, Martinus Nijhoff Publishers (1993) vol II, p 36.
24. SN Nandan and S Rosenne, *ibid*.
25. See, for example, LOSC, Arts 1(1)(5)(b), 90-99, 248(b), 248(d), 249(1)(a) and 292.
26. A Wahl, *Droit Maritime* (1924) p 12, as discussed in G Lazaratos, note *supra* at 66.
27. G Lazaratos, *ibid* at 68, in which the author argues that in *Mayor of Southport v Morris*, [1893] 1 QB, 359, 'when an electric launch of 3 tones burthen, operated on an artificial lake (on the foreshore), half a mile long and 180 yards wide, and used for carrying up to 40 passengers, was the subject of litigation in a British court, it was not found to be a ship, since its movements were not navigation in the proper sense'.
28. *Steedman v Scofield* [1992] 2 Lloyds' Rep 163 at 166.
29. M Davies and A Dickey, *Shipping Law*, LBC Information Services (2 1995) p 8.
30. *St John Pilot Commissioners and the Attorney-General for the Dominion of Canada v Cumberland Railway & Coal Co* [1910] AC 208 at 218.
31. See *Exp Ferguson*, [1871] LP6 QB 280.
32. See the German, *Bundesgerichtshof*, 1952 NJW 1135 (cited in the Memorial of Finland, note *supra*, at 152).
33. See the Memorial of Finland, *ibid* at 152.
34. Section 6.
35. Section 742.
36. Section 3(1).
37. The Memorial of Finland, note *supra*, at 153.
38. *Ibid* at 154.
39. *Ibid*.
40. See note *infra*.

41. [1988] AMC 1894.
42. *Ibid*.
43. Section 6(1).
44. Section 3(1).
45. The Australian Navigation Act 1912, S 6(1) (definition of ship (c)) and the Australian Admiralty Act 1988 S (3) (definition of ship (c)).
46. Art 8(3) of the Act provides: 'a reference in this Act to an offshore industry mobile unit shall be read as a reference to: ... (b) a structure (not being a vessel) that:
    (i) is able to float or be floated;
    (ii) is able to move or be moved as an entity from one place to another; and
    (iii) is used or intended for use wholly or primarily in, or in any operations or activities associated with or incidental to, exploring or exploiting the natural resources of any or all of the following, namely:
    (A) the continental shelf of Australia;
    (B) the seabed of the Australian coastal sea; and
    (C) the subsoil of that seabed;

    by drilling the seabed or its sub-soil, or by obtaining substantial quantities of material from the seabed or its sub-soil, with equipment that is on or forms part of the structure; or
    (D) a barge or like vessel fitted with living quarters for more than 12 persons and used or intended for use wholly or primarily in connection with the construction, maintenance or repair of offshore industry fixed structures'.
47. M Summerskill, note *supra*, p 14.
48. *Ibid*.
49. *Ibid*.
50. See for example, *In re Seafarers' International Union of Canada v Crosbie Offshore Services Ltd* [1982] DIR 135 (3rd 485 FCA); *Offshore Co v Robinson* [1959] AMC 1260 (5 Circuit); In re Complaint of Sedco Inc [1982] AMC 1461, 21ILM (1982) 318.
51. See 46 USC ss 183-89.
52. District Court for the Southern District of Texas Memorandum and Order in the Matter of the Complaint of SEDCO, Inc, 21 ILM (1982) 318 at 337.
53. *Ibid*.
54. *Ibid* at 335.
55. [1971] AMC 90.
56. [1971] AMC 90 at 90-91, see also, *Gianfala v Texas Company* [1955] AMC, 350 US 897 [1960]; *Marine Drilling Co v Autin* [1966] AMC 2013; *Producer Drilling Co v Gray* [1966] AMC 1260; and *Offshore Co v Robinson* 1959] AMC 2049.
57. See for example, *Potton-Tully Transportation Company v Turner* [1920] 269 F. 334 (6 Cir); *Marine Craft Constructors Ltd v Erland Blomqvist (Engineers) Ltd* [1953] 1 Lloyds' Rep 514; *Cook v Dredging & Construction Co Ltd* [1958] Lloyds' Rep 334; *The Queen v St John Shipbuilding & Dry Doc Co* [1981] 126 DLR (3d) 353,362 (FCA); *In re Great Lakes Transit Corporation*, 53 F2d 1022, [1931] AMC 1740.

58. [1911] AMC 582.
59. *Ibid.*
60. *Ibid.*
61. *The Ashar, KLR 1985* notes *37* quoted in, A Georghadjis, et al, *Arrest of Ship* (1988).
62. The *Ashar, KLR 1985* notes 37 p 53.
63. The Memorial of Finland, note *supra*, at 155. See also the *Sedco* case, (1982) AMC 1461, 1474.
64. The Counter Memorial of the Kingdom of the Denmark, filed with the ICJ in May 1992 in the *Case Passage through the Great Belt (Finland v Denmark)* (hereinafter the Counter Memorial of Denmark) vol 1 p 212.
65. Venezuela Shipping Act 1944, Art 19.
66. The Australian 1981 Shipping Registration Act, section 3(1) (definition of ship (b)).
67. According to section 3 (1) of the Act: 'Any act or emission which: (a) takes place on, under or above an installation in a designed area or any waters within 500 metres of such installation; and (b) would, if taking place in any part of the UK, constitute an offence under the law in force in that part, shall be treated for the purpose of that law as taking place in that part'. For a detailed discussion of the definition of 'ship' in the United Kingdom see K Rohrmann, *Offshore Oil and Gas Exploration and Production Installations: Law and Insurance*, Institute Universitaire de Haures Etudes Internationales (1990), Annex II, p 133.
68. See Chapter 4 below.
69. See for example, Australia: 1981 Shipping Registration Act, Section 3(1)(b), 1988 Admiralty Act, Section 3(1)(c); Finland: 1983 Law on the Prevention of Pollution from Ships, Art. 1; Spain: 1977 Act No 21 (Dumping from Ships or Aircraft), Art 1(3).
70. See, South Korea: 1989 Marine Pollution Prevention Act, Art. 2(5) and 2(7); Romania: 1972 Decree on Civil Navigation, No 443, Art. 8.
71. Order No 710, 1972, UNLS, National Legislation and Treaties Related to the Law of the Sea, ST/LEG/SER.B/18 (1976) 195.
72. UNLS, National Legislation and Treaties Related to the Law of the Sea, ST/LEG/SER.B/18 (1976) 76. See also the US Navigation Rules, Rules 3(q)(vi) US.
73. Spain Act No 21 (Dumping from Ships or Aircraft), 1977, United Nations Legislative Series, National Legislation and Treaties Related to the Law of the Sea, ST/LEG/SER.B/19 (1980).
74. Art 1(3).
75. 1983 Law on the Prevention of Pollution from Ships, as amended, Art. 1, Finland.
76. See generally, R Taggart, *Ship Design Construction*, Society of Naval Architects and Marine Engineers (1980).
77. See Chapter 2 above.
78. M Summerskill, note *supra*, p 16.
79. HC Black, *Law Dictionary*, (6 1990) p1340. For different definitions of the term 'salvage' see *Edmund L Cope v Vallette Dry Dock Company* [1886] US 119 at 501, per Justice Bradley; for a discussion of salvage from Australian law perspective see M White 'Salvage, Towage, Wreck and Pilotage' in MWD White, *Australian Maritime Law*, Federation Press (2000) 223.

80. It was signed at Brussels on September 23 1910; for the history and scope of the Convention see IH Wildeboer, *The Brussels Salvage Convention*, Sijthoff (1965).
81. See generally, *Ibid.*
82. See Art 1.
83. IH Wildeboer, note *supra*, p 16.
84. *Ibid*, p 12.
85. 1996 UKTS93.
86. See this Chapter, Section 3.4.
87. See *Watson v RCA Victor Co Inc* [1934] 50 LILR 77.
88. *Edmund L Cope v Vallette Dry Dock Company* [1886] US 119 at 502.
89. *Ibid*, per Justice Bradley.
90. For the historical development of legal rules and the current legal situation of collisions see: IA Shearer, 'Collisions at Sea' (1989) in *Encyclopedia of Public International Law* vol 11 pp 63-65; CJ Colombos, *The International Law of the Sea* (6 1967) pp 339-345; S Mankabady, *Collision at Sea: a Guide to the Legal Consequences*, North Holland Publishing Company (1978) pp 6-8; and JC Smith, 'Comparative Aspects of Commonwealth and US Law Since the Collision Convention' (1983) 57 *Tul. LR* 1092.
91. Blacks' Law Dictionary, West Publishing Co (1979) defined the term 'collision', as used in maritime law, as 'The act of ships or vessels striking together'.
92. The word 'allision' is defined in Blacks' Law Dictionary, West Publishing Co (1979), p 69 as 'the running of one vessel into or against another, as distinguished from a collision, ie., the running of two vessels against each other. But this distinction is not very carefully observed'. The term 'allision' has been used in a broader sense to incorporate the contacts of moving vessels not only with stationary vessels or other floating structures, but also with piers, wharves, bridges and other offshore installations. See *Georgia Ports Authority v The Atlantics Towing Co*, [1985] AMC 332 (s d Ga 1983) and Matter of Exxon Shipping Co, 869 F.2d 943, 1989 AMC 1422 (5 Cir 1989) as discussed in NJ Healy and JC Sweeney, 'Basic Principles of the Law of Collision' (1991) 22 *JMLC* 359 at 359.
93. DP O'Connell, *The International Law of the Sea*, Clarendon Press (IA Shearer ed 1984) vol II p 874; see also *Hough v Head* [1885] 52 LT 861 at 864, per J Grove.
94. International Convention for the Unification of Certain Rules of Law with Respect to Collision Between Vessels, Sept 23, 1910; Art 1 of the Convention provides that 'Where a collision occurs between seagoing vessels or between seagoing vessels and vessels of inland navigation, the compensation due for damages caused to the vessels, or to any things or persons on board thereof, shall be settled in accordance with the following provisions, in whatever waters the collision takes place'.
95. Although, as we will see below, a number of pre 1950s international conventions have defined the words 'ship' and 'vessel', the common approach before the 1950s was to refer to 'ship' and 'vessel' without defining them. See, for example, Convention for the Unification of Certain Rules relating to the Limitation of Liability

of Owners of Seagoing Vessels, Brussels, 25 August 1924, Arts. 1-13; Convention for the Unification of Certain Rules relating to the Immunity of State-owned Vessels, Brussels, 10 April 1926, Arts. 1-5; Convention on the International Regime of Maritime Ports, Geneva, 9 December 1923, Preamble; Convention on Traffic in Opium and Drugs, Geneva, 19 February 1925, Art 15(1).

96. International Convention for the Unification of Certain Rules of Law with Respect to Collision Between Vessels, Brussels, September 23rd, 1910, Art 11.
97. Art 13 of the Convention.
98. Art 11 of the Convention.
99. International Convention on Certain Rules Concerning Civil Jurisdiction in Matters of *Collision*, May 10, 1952, 439 UNTS 217 [hereinafter cited as Civil Jurisdiction Convention].
100. Art 4
101. Art 1.
102. Art 7.
103. Art 1(1) (b).
104. See the report of the CMI (the Comité Maritime International) International Subcommittee on Collision, vol III, 1977 CMI Documentation 138 p 154.
105. Vol II, 1977 CMI Documentation 104. For a detailed discussion of the Draft Conventions' provisions see NJ Healy and JC Sweeney, 'Basic Principles of the Law of Collision' (1991) 22 *JMLC* 359 at 378-380.
106. NJ Healy and JC Sweeney, *ibid.*
107. The 1952 Civil Convention, Art. 1(1) (b); the 1977 Draft Convention, Art 9.
108. NJ Healy and JC Sweeney, note *supra*, at 379.
109. *France v Turkey (the Lotus)*, PCIJ, Ser A, No 10 (1927) 169.
110. The International Convention for the Unification of Certain Rules Relating to Penal Jurisdiction in Matters of Collision or Other Incidents of Navigation, Brussels, May 10, 1952, Art 1.
111. 1972, 28 UST 3459.
112. See note *supra*.
113. M Summerskill, note *supra*, p 26, in which the author says: "Offshore mobile drilling units, of whatever kind, would seem to be 'water craft' in any event; though it might be questioned whether they can properly be described as 'used or capable of being used as a means of transportation on water'. It does not appear to be essential, in order to satisfy the requirement as to transportation, that commercial cargoes should be carried. A drilling unit can transport, or carry, persons, equipment, specimens of oil, and supplies, and is thus capable of being used as a means of transportation, even if that is not its main task".
114. S Mankabady, note *supra*, pp 97-98.
115. Note *supra*.
116. Note *supra*.
117. Note *supra*.
118. Note *supra*.

119. However, there are a number of other international conventions which may play important roles in some collision cases. These are: 1977 Draft International Convention on Offshore Mobile Craft, adopted by the CMI at Rio de Janeiro in September, 1977; 1976 Convention on Limitation of Liability for Marine Claim, IMCO No 77.04E; 1957 International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships, 6 Benedict, Admiralty, Doc 5-2, at 5-11; 1924 Convention, International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, 51 Stat 233, TS 931, 120 LNTS 155, at 1-2.; 1926 International Convention for the Unification of Certain Rules Relating to the Immunity of State-Owned Vessels, 176 LNTS 199, at 8-33; 1970 Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 6A Benedict, Admiralty, Doc 9-38; 1926 Convention on Maritime Liens and Mortgages, International Convention for the Unification of Certain Rules Relating to Maritime Liens and Mortgage, 120 LNTS 187, at 8-17, and 1952 International Convention Relating to the Arrest of Sea going Ships, May 10, 1952, 439 UNTS 193.
120. DP O'Connell, note *supra*, vol II p 890.
121. Signed in Geneva, 24 June 1926, 38 UNTS 295.
122. Art 2(a).
123. Convention 8/1920 of the ILO, available in N Singh, *International Convention on Merchant Shipping*, Stevens & Sons (1983) vol 3, pp 2128-2130.
124. Art 1(2) of the Convention.
125. ILO 1921 Convention Concerning the Compulsory Medical Examination of Children and Young Persons Employed at Sea, Art. 1 38 UNTS 217; 1936 ILO Convention Fixing the Minimum Age for Admission of Children to Employment at Sea (revised 1936) Art. 1 40 UNTS 205.
126. See also, ILO 1921 Convention Fixing the Minimum Age for the Admission of Young Persons to Employment as Trimmers or Stokers, art. 1, 38 UNTS 203.
127. For historical development, the role, and functions of the ILO see generally, VA Leary, 'Labor', in CC Joyner, *The United Nations and International Law*, Cambridge University Press (1997) 208; JG Stark, 'Implementation and Enforcement of ILO Conventions and Standards' (1990) 64 *ALJ* 511; N Valticos, *International Labour Law*, Kluwer (1979); DE Smikahl, 'Selected Bibliography on ILO Conventions' (1984) 6 *Comparative Labor Law* 227. The complete text of ILO conventions and recommendations pre-1981 are published in ILO, International Labour Conventions and Recommendations 1919-1981.
128. Agreed in London on May 12, 1954, 9 ILM (1970) 1.
129. Art 1(1).
130. DP O'Connell, note *supra*, vol II p 750.
131. M Summerskill, note *supra*, p 45.
132. 1046 UNTS 120.
133. International Convention for the Prevention of Pollution from Ships, 1973, 12 International Legal Materials 1319. The Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships provided that the 1978 Protocol would merge with the 1973 Convention into one final instrument.

The Conventions 1973/78 entered into force on 2 October 1983. Additionally, the 1984 Amendments entered into force 7 January 1986, and the 1985 Amendments to the Protocol entered into force on 6 April 1987; see D Brubaker, *Marine Pollution and International Law*, Belhaven Press (1993) p 139.

134. The International Convention for the Prevention of Pollution from Ships, 1973, Art 2(4).
135. The Memorial of Finland note *supra*, Map and Annexes, pp 274-275.
136. IMO Doc MP/CONF/8/7, 3 July 1973.
137. IMO Doc MP/CONF/C.1/WP 5, 10 October 1973.
138. The Memorial of Finland note *supra*, Map and Annexes, p 275.
139. *Ibid.*
140. *Ibid.*
141. 9 ILM (1970) 45.
142. The International Convention on Civil Liability for Oil Pollution Damage (or Civil Liability Convention), 29 November 1969, Art 1.1.
143. International Convention on the Establishment of an International Fund for Oil Pollution Damage, 1971, 11 ILM (1971) 284. Protocol of 1984 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (not in force), 15 *JMLC* pp 623-633. D Brubaker, note *supra*, p 172.
144. 9 ILM (1970) 25. Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil (1973), 16 ILM (1970) 1103.
145. The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, agreed to in London on November 29, 1969, Art 2.2
146. The International Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1972, 11 ILM (1972) 262.
147. Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 22 March 1974, 13 ILM (1974) 546.
148. Convention on the Protection of the Marine Environment of the Baltic Sea Area, Annex IV, Reg. 3(1).
149. Signed in London in 30 November 1990, 30 ILM (1991) 733.
150. Art 2(4).
151. See generally C Hill et al, *Arrest of Ships* (1985); J Theunis et al, *Arrest of Ships-2, Belgium, The Netherlands, India, Yugoslavia*, (1986); M Ganado et al, *Arrest of Ships-3, Malta, Panama, Sweden, United Arab Emirates*, (1987); Kaw Vun-Ping, Hafizullah et al, *Arrest of Ships-4, People Republic of China, Nigeria, Oman, Scotland*, (1987); M Hafizullah et al, *Arrest of Ships-5, Bangladesh, Finland, Saudi Arabia, South Africa* (1987); A Philip, *Arrest of Ships-6, Denmark, Greece, Hong Kong, Kuwait, Qatar* (1987); A Georghadjis et al, *Arrest of Ships-7, Cyprus, Egypt, Pakistan, Poland*, (1988); and AD McArdle, *International Ship Arrest: a Practical Guide*, (1988). See also WP Verstrepen 'Arrest and Judicial Sale of Ship in Belgium' (1995) LMCLQ 131.
152. International Convention Relating to the Arrest of Sea going Ships, May 10, 1952, 439 UNTS 193.

153. See F Berlingieri, 'The Scope of Application of the 1952 Brussels Convention on the Arrest of Ships' (1991) 22 *JMLC* 405.
154. LOSC, Arts 28(2), 28(3), 73(1), 73(4), 97(3), 105, 109(4), 111(6), 111(7) and 111(8).
155. See Section 3.2.5 below.
156. *Ibid.*
157. RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) p 257.
158. R Jennings and A Watts, *Oppenheims' International Law* (9 1992), vol 1, pp 731-732.
159. CJ Colombos, note *supra*, p 291.
160. R Jennings and A Watts, *ibid*, vol 1, pp 731-739. The Permanent Court of Arbitration in the case of *Muscat Dhows*, in which France authorised the Sultan of Muscats' subjects to sail under the French flag, held that, 'generally speaking it belongs to every sovereign to decide to whom he will accord the right to fly his flag and to prescribe the rules governing such grants ... therefore the granting of the French flag to subjects of His Highness the Sultan of Muscat in itself constitutes no attack on the independence of the Sultan ... nevertheless a sovereign may be limited by treaties in the exercise of this right'; see Decision of the Permanent Court of Arbitration in the matter of Muscat Dhows, (1908, 2 *AJIL* at 924). The 1958 Convention on the High Seas, in principle, has accepted this approach providing that 'Every state, whether coastal or not, has the right to sail ships under its flag on the high seas' (Art 4). The Convention added that 'each State shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag' (Art 5). However, 'There must exist a genuine link between the State and the ship; in particular, the State must effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag' (Art 5). Not all publicists agree that the flag State and State of nationality are synonymous. (DHN Johnson, the Nationality of Ship (1959) 8 *Indian Yearbook of International Affairs*, pp 3-15; DP O'Connell, note *supra* vol II pp 750-770). However, the 1982 Law of the Sea Convention (Art 90-91), like the 1986 UN Convention on Conditions for Registration of Ships (Art 4 and 11), considers the flag of State and State of registration as being similar.
161. M Summerskill, note *supra*, p 29.
162. *Ibid.*
163. *Ibid.*
164. DP O'Connell, note *supra*, vol II, p 905.
165. *Ibid.*
166. R Jennings and A Watts, note *supra*, vol 1, p 734.
167. Art 5(1).
168. The Convention was concluded under the auspices of UNCTAD, Geneva, 7 February 1986, (1987) 26 ILM 1229.
169. Art 2.
170. The Regulation was made under the Mineral Working (Offshore Installation) Act 1971, UK.

171. The Memorial of Finland, note *supra*, p 158.
172. See Chapter 4 below.
173. *Johnson v Diprose* [1893] 1 QB 512 at 515, per Lord Esher MR.
174. M Summerskill, note *supra*, p.20.
175. *Ibid.*
176. *Ibid.*
177. R Jennings and A Watts, note *supra* vol I, p 746.
178. Art 101 of the LOSC provides:
Piracy consists of any of the following acts:
(a) Any illegal acts of violence or detention, or any act of depredation, committed for a private ship or a private aircraft, and directed:
(i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;
(ii)against a ship, persons or property in a place outside the jurisdiction of any State;
(b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft; any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).
179. R Jennings and A Watts, note *supra* vol I, pp 746-75; DP O'Connell, *International Law*, Stevens & Sons (1970), vol 2 pp 657-663; DP O'Connell, note *supra*, vol II pp 966-983; IA Shearer, *Starks' International Law*, Butterworths (1994) pp 247-250; and BH Dubner, *The Law of International Sea Piracy*, Martinus Nijhoff (1980).
180. *Ibid.*
181. The CIM was established in Antwerp in 1897. It is a non-governmental body which consists of the maritime law associations of many countries.
182. The draft Convention was adopted at Rio de Janeiro. It was then transmitted to the Intergovernmental Maritime Consultative Organisation (IMCO) for appropriate action because it was thought that the IMCO, currently known as the IMO, may adopt the draft.
183. Art 1, the draft International Convention on Offshore Mobile Craft, 1977.
184. M White, 'Offshore Craft and Structures: a Proposed International Convention' (1999) 18 *AMPLJ* 21 at 21.
185. *Ibid.*
186. *Ibid* at 22.
187. *Ibid.*
188. The Convention was signed in Rome, 10 March 1988, 27 ILM (1988) 672.
189. Signed in Rome, 10 March 1988, 27 ILM (1988) 685.
190. See chapter 5 below.
191. Such as the 1989 International Convention on Salvage, the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Navigation, the 1990 International Convention on Oil Pollution Preparedness, Response and Co-operation and the 1988 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf.
192. See chapter 5 below.

193. G Lazaratos, note *supra* at 83.
194. DP O'Connell, note *supra*, vol II p 750.
195. Gidel in a section entitled 'definition of a sea going vessel from the perspective of public international law' defines a 'surface sea going vessel' as 'not only any floating object but all structures with any dimensions or designation which are capable of moving in maritime spaces ...' *'n'est pas seulement tout engin flottant, mais tout engin, quelles que soient ses dimensions et sa denomination, apte á se mouvoir dans les espaces maritimes...'*, G Gidel, *Le Droit International Public De La Mer*, Topos Verlag Vaduz (1981), vol I p 70.
196. UN Doc A/CN 4/17, p 10.
197. See YILC (1955) vol 1 p 10, it is also discussed in G Lazaratos, *ibid* at 83-84 and DP O'Connell, note *supra*, vol II p 750.
198. DP O'Connell, *ibid*.
199. G Lazaratos, note *supra* at 84 and H Meyer, note *supra*, pp 17- 18.
200. See for example, Arts 14-23.
201. In chapters 4-8 below.
202. See this chapter, section 3.5 below.
203. *Ibid*; see also Chapters 5-8.
204. See, for example, Agreement on Maritime Transport between the Netherlands and China, 14 August 1976, 1021 UNTS 249; Panama Canal Treaty between United States of America and Panama, 7 September 1977, 1280 UNTS 3; Agreement on Maritime Transport between Spain and Equatorial Guinea, 5 December 1979, 1177 UNTS 213; and Agreement on Marine Transpost between Finland and China, 27 January 1977, 1215 UNTS 65.
205. Signed in Berlin, 13 October 1976, UNLS, ST/LEG/SER.B/19, p 408.
206. Art 1.
207. *Passage through the Great Belt (Finland v Denmark)*, 1991 ICJ, 94 ILR (1994) 446.
208. The questionnaire was sent to eight states: Australia, Chile, South Korea, Malaysia, Argentina, Mexico, Singapore, and Turkey.
209. The Memorial of Finland, note *supra* Annex 36.
210. The Argentinian reply indicates that mobile offshore drilling units do not posses the juridical nature of vessels, however, in relation to their navigation in Argentinian territorial waters, marine pollution and the security of navigation, a regime similar to vessels will be followed. See the Memorial of Finland, *ibid*, Annex 36, Reply of October 1991 by the Ministry of Defence of Argentina to the Finnish Embassy in Buenos Aires.
211. It is understood, from the Australian reply, that if mobile oil drilling rigs are intended for use on the continental shelf of Australia then an advance notification is required in certain circumstances. See the Memorial of Finland, note *supra* Annex 36, Reply of 15 October 1991 by Australian Maritime Safety Authority to the Finnish Embassy in Canberra.
212. *Ibid*, Reply of 13 November 1991 by the Ministry of Foreign Affairs of Turkey to the Finnish Embassy in Ankara.

213. See AHA Soons, *Artificial Islands and Installations in International Law*, Occasional Paper Series, Law of the Sea Institute (1974), University of Rhode Island, Occasional Paper No 22, p 3.
214. LOSC, Art 121(1).
215. AHA Soons, note *supra*, p 2; see also RB Krueger (Rapporteur), *Artificial Islands and Offshore Installations*, in International Law Association Report, Committee on the Law of the Sea, 57th Conference, Madrid (1978) p 397.
216. AHA Soons, *ibid* and ED Brown, 'The Significance of a Possible EC EEZ for the Law Relating to Artificial Islands, Installations, and Structures, and to Cables and Pipelines, in the Exclusive Economic Zone' (1992) 23 *ODIL* 115 at 122.
217. Art 60(8).
218. Art 5(4).
219. By Sir Charles Russell in the Bering Sea Arbitration, as discussed by PC Jessup, *the Law of Territorial Waters and Maritime Jurisdiction*, GA Jennings Co Inc (1927) pp 69-70 and DW Bowett, *the Legal Regime of Islands in International Law*, Oceana Publications, (1979) pp 2-7.
220. Such as, PC Jessup, *ibid*.
221. Annuaire, 1913, p 409, 411 (report by Oppenheim) as discussed in DW Bowett, note *supra*.
222. See, DW Bowett, *ibid*, p 2.
223. YILC (1956) vol 2 p 270.
224. *Ibid*.
225. *Ibid*.
226. DW Bowett, note *supra*, p 4.
227. This notion was explained in a United States amendment at the 1958 Geneva Conference; see A/CONF 13/c.1/L.112, as discussed in DW Bowett, *ibid*.
228. See generally N Papadakis, note *supra*; DHN Johnson, note *supra*; CJ Colombos, note 1, *supra*, pp 126-127 and W Piphagen, 'International Legal Aspects of Artificial Islands' (1973) 4 *International Relations* 327.
229. Art 60 (1) (a).
230. A large number of different types of artificial islands are used for different purposes. For a detailed description of the kinds and usage of artificial islands see N Papadakis, note *supra*, pp 11-37 and CW Walker, 'Jurisdictional Problems Created by Artificial Islands' (1973) 10 *San Diego Law Review* 638 at 638-663.
231. For the types and physical nature of oil rigs see above, Chapter Two.
232. See the LOSC, 1982, Arts 11, 56(1) (b) (i), 60, 87(1) (d), and 208(1).
233. Signed in Rome, 10 March 1988, 27 ILM (1988) 685.
234. Art 1(3).
235. M Summerskill, note *supra*, p 16.
236. Art 5(4) of the 1958 Continental Shelf Convention.
237. N Papadakis, note *supra*, p 177.
238. Doc SC-72/CONF 85/8, Paris, 30 March 1972, at p 6, as discussed in *ibid*.
239. *Ibid*.

240. The Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources, 1976, New Direction in the Law of the Sea VI at 535 and 16 ILM (1977) 1450.
241. Art 3.
242. The text was provided by the Finnish Embassy in Seoul to the Finnish Legal Team in the case concerning *Passage through the Great Belt*. See the Memorial of Finland, note *supra* Maps And Annexes, p 290.
243. Signed in London on 30 November 1990, 30 ILM (1991) 733.
244. IMO Doc OPPR/PM/2, 19 March 1990.
245. IMO Doc OPPR/PM/WP 9/Rev 1, 17 May 1990.
246. The record of the Conference which accepted this Convention does not reveal any essential discussion of the definition of 'offshore units' and 'offshore platforms': the Memorial of Finland, note *supra*, Maps and Annexes, p 281.
247. The Convention was signed in Rome, 10 March 1988, 27 ILM (1988) 672.
248. Art 1.
249. Signed in Rome, 10 March 1988, 27 ILM (1988) 685.
250. IMO Doc SUA/CONF/3, 28 August 1987.
251. IMO Doc SUA/CONF/8, 20 January 1988.
252. IMO Doc SUA/CONF/7, 18 January 1988.
253. 1996 UKTS 93.
254. Art 1(b).
255. Art 3 (1).
256. [1926] LLR 25 at 446.
257. [1926] LLR 25 at 449.
258. Arts 56 and 60.
259. LOSC, Arts 11, 56, 60, 80, 87, 147, 194, 208, and 262.
260. Arts 56, 60, 80 and 208.
261. Art 147.
262. Art 194(3)(c)(d).
263. Art 209.
264. A/CONF 62/L.57/Rev 1 (1980), section IIV, 'Items under consideration,' para 1, XIV Off Rec 114, 119 (Chairman, Drafting Committee), as discussed in SN Nandan and S Rosenne, note *supra*, p 36.
265. SN Nandan and S Rosenne, *ibid*.
266. A/AC. 138/SC. II/L.27 and Corr. 1, Art 1, Paras 3 to 5, Art 2, Para (a), and Art 3, Para 2, reproduced in III SBS Report 1973, at 75, 76 (USA), as discussed in SN Nandan and S Rosenne, *ibid*, p 575.
267. *Ibid*.
268. C.2/Blue Paper No 4 (1975, mimeo.), Provisions 18. Reproduced in IV Platzoder 126, 128, as discussed in SN Nandan and S Rosenne, note *supra*, p 121.
269. SN Nandan and S Rosenne, *ibid*, p 121-122.
270. *Ibid*, p 122.
271. *Ibid*.
272. LOSC, Art 56 (1)(a) and (b)(i).

273. LOSC, Art 60 (1) (a) and (b).
274. LOSC, Art 60 (2).
275. LOSC, Art 87 (d).
276. LOSC, Art 60 (4).
277. LOSC, Art 60 (5).
278. LOSC, Art 60 (8).
279. LOSC, Arts 60(3) and 208(1).
280. LOSC, Art 60(7).
281. LOSC, Art 60(3).
282. LOSC, Art 5, para 2-6.
283. LOSC, Art 5(2).

4 Jurisdiction of States in Relation to Oil Rigs

4.1 Introduction

The question of jurisdiction[1] in relation to the construction and control over oil rigs and people on board in different maritime zones is an important question in international law. Who is authorised in international law to erect or construct oil rigs in different parts of the sea including the high seas? Who has control of the jurisdiction over oil platforms and the activities of people on board beyond a States' territorial sea? There are usually a number of people on oil rigs who might become involved in crime such as assault, theft or even homicide. In addition, certain activities, such as the design and engineering work, can lead to property loss as well as personal injury and the death of employees. Therefore, the issue of what is the applicable criminal and civil law on the installation can, in some cases, be a matter of international dispute.

This chapter will examine the rights of States with respect to the construction of oil installations in different maritime zones under the 1982 LOSC and customary international law. The general control and jurisdiction of coastal States and other States over oil rigs, and the criminal and civil jurisdiction on board or in relation to oil rigs from an international law perspective, will be analysed. Finally, jurisdiction with respect to customs, fiscal matters, health and immigration under international law, and in particular, under the 1982 LOSC will be discussed.

4.2 State Rights to Construct Oil Rigs

Generally, nine maritime zones are recognised or are in the course of attracting general recognition in the international law of the sea. Among them are internal waters, the territorial sea, the exclusive economic zone, the continental shelf, the high seas and the 'Area' beyond the limits of national jurisdiction.[2] For the purpose of State jurisdiction relevant to the construction of oil rigs, five maritime zones and the international seabed area will be discussed below.

4.2.1 Within Internal Waters

The internal waters of the States are defined as waters on the landward side of the baseline of the territorial sea.[3] These include ports, harbours, bays, lakes, canals and rivers including their mouths and to some extent other closely related water areas.[4] The coastal State has full territorial sovereignty and comprehensive jurisdictional competence over its internal waters.[5] 'Internal waters are legally equivalent to a state's land'.[6] There is no right of navigation and innocent passage for foreign ships through internal waters.[7] This distinguishes internal waters from the territorial sea.

The sovereignty of the coastal State over its land territory extends to internal waters.[8] Therefore, the construction of offshore installations in internal waters is a matter of internal concern to the coastal State and is governed by its law and regulations. Coastal States thus have comprehensive jurisdiction to build any artificial islands and offshore installations within their internal waters. It is also necessary for foreign states and companies to obtain the express permission of the coastal state in order to construct and operate such installations in internal waters. In the *Anglo-Norwegian Fisheries Case* before the International Court of Justice, the Court acted on the belief that for access to internal waters the permission of the coastal State is required.[9]

However in exceptional cases, there might be a right of innocent passage in internal waters. Article 5(2) of the Geneva Convention on the Territorial Sea and the Contiguous Zone[10] and Article 8(2) of the 1982 LOSC provide for exceptional circumstances where states may have the right of innocent passage within internal waters. According to Article 8(2) of the LOSC: 'Where the establishment of a straight baseline in accordance with the method set forth in Article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters'. In addition, the International Court of Justice considered a further exception in the *Land, Island and Maritime Frontier Dispute* in 1992. In relation to the question of the right of innocent passage in the internal waters of the historic bay, the Court held that '... rights of innocent passage are not inconsistent with a regime of historic waters ...'.[11] These two exceptions also have some impact on the building and operation of oil rigs and other offshore installations in the area of internal waters. The question arises whether, because of the construction of an offshore structure, the right of innocent passage is hampered. As will be discussed in the following sections, the construction of offshore installations in different marine areas where the right of innocent passage exists under international law, international navigation and innocent passage must not be hampered. Furthermore, coastal States are as liable in their internal waters as they would for their land territory, in any

action that might injure other States.[12] In the *Trail Smelter Arbitration*[13] the Arbitral Tribunal found that under the principles of international law, States are obliged not to use or permit the use of their territories 'in such manner as to cause injury by fumes in or to the territory of another or the properties or persons therein'.[14] The same principle applies to all forms of material injuries.

Finally, according to Article 11 of the 1982 LOSC, permanent harbour works shall not include artificial islands and offshore installations for the purpose of delimiting the territorial sea. This regulation is intended to prevent coastal states from extending their baselines as part of the harbour works which, according to Article 11, are regarded as forming part of the coast.[15]

4.2.2 In the Territorial Sea

According to the LOSC 'every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention'.[16] The coastal State has sovereignty over its territorial sea.[17] This sovereignty extends to the air space over the waters as well as to the seabed and subsoil under the water.[18] Although it is not mentioned expressly in the LOSC, a coastal state, by virtue of its sovereignty over its territorial sea, has the authority to build offshore oil rigs and other installations within its territorial waters.[19] Provision I of the Informal Working Paper No. 12, prepared during the second (Caracas) Session of the Third United Nations Conference on the Law of the Sea (UNCLOS III), provided that 'the coastal State is entitled to construct artificial islands or immovable installations in its territorial sea'.[20] At the third session (1975) of the UNCLOS a proposal by Ecuador as to the nature and characteristics of the territorial sea was discussed in the formal meeting of the Second Committee.[21] This proposal embodied certain specific provisions with respect to the exploration and exploitation of the natural resources of the territorial sea. It also expressly hints at the authority of the coastal State to construct and emplace artificial islands and offshore installations within its territorial waters. According to Paragraph 2 of the proposal, the coastal State, by virtue of its sovereignty over the territorial sea, is authorised to adopt the measures necessary for its security and also to exercise jurisdiction particularly with respect to: (a) the exploration, exploitation, conservation and administration of non-renewable resources, whatever the characteristics and habits of the latter may be; and (c) the emplacement and use of artificial islands, installations, structures and device of any kind.[22] Ecuadors' proposal was not adopted. Accordingly the LOSCs' provisions with respect to the territorial sea do not refer to the rights of the coastal State to establish oil rigs and other installations. Presumably,

it was thought that since the coastal State has exclusive sovereignty over its territorial sea it was unnecessary to express the coastal States' rights to establish oil rigs and other installations.

The right of coastal States to construct and operate oil rigs and artificial islands in their territorial waters may be restricted in certain respects, such as in the case of innocent passage.[23] Article 2(3) of the LOSC provides that 'the sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law'. Article 17 of the LOSC provides: 'subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea'. Article 19 of the LOSC explains the meaning of the term 'innocent passage'. Article 24 of the LOSC describes the duties of the coastal State with respect to the right of innocent passage.[24] The exclusive rights of the coastal State to construct and operate offshore installations, as well as other activities, in the territorial sea, must be consistent with the reasonable requirements of the rights of other States.

According to Article 60(7) of the LOSC 'artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognised sea lanes essential to international navigation'. One writer[25] has asserted that although Article 60(7) applies to the Exclusive Economic Zone, undoubtedly the same principle would also be applicable to offshore installations in the territorial sea. He does not explain the reasoning behind his conclusion.[26] One may say that if any installations are to be built within the territorial sea of a coastal state, due consideration must be given to the impact such structures may have on innocent passage within that area. Thus, the right of a coastal State to construct and operate offshore oil installations within its territorial sea should be viewed with due regard for the right of innocent passage. In contrast it may be argued that the coastal State has jurisdiction over its territorial sea which is equivalent to its sovereignty over its land, whereas on the continental shelf and the EEZ, the coastal State maintains its sovereign rights only for certain purposes such as the exploration and exploitation of the natural resources of the continental shelf. Further, the continental shelf and the EEZ, for the purpose of navigation, have always been considered as high seas. However, the right of innocent passage is a principle of international law. This right in the territorial sea is recognised by the LOSC.[27] Therefore, coastal States are obliged by virtue of the LOSC's provisions, to not knowingly create situations where interference may be caused to the right of innocent passage in their territorial waters.[28] Thus, it may be said that oil rigs and other offshore installations may not be constructed where they could interfere with the right of innocent passage in the territorial sea. Before the International Court of Justice, a question submitted to the Court in the *Corfu Channel Case*[29] was whether Albania

was responsible under international law for the damage to the British warships in its territorial sea. It was held that the Albanian authorities were under an obligation to notify the British vessels and shipping in general, of the existence of the minefields in its territory.[30] It was further stated that such obligations are based on certain well-recognised principles such as the freedom of maritime communications and a State's obligation not to knowingly allow its territories to be used for acts contrary to the rights of other States.[31]

Therefore, it can be argued that the construction and operation of offshore oil installations on the territorial sea, which is legally equivalent to a State's territory,[32] must not interfere with the rights of other States.

A question may arise here concerning the meaning of 'interfere with innocent passage'. Does this mean that even a minor inconvenience would be prohibited? Would it be a kind of interference prohibited by international law to request that ships change their direction, or wait under certain circumstances. One has to invoke the concept of reasonableness and the need to strike a balance between the value of oil rigs to the coastal State's economy and the freedom of innocent passage. Therefore, as stated by Mouton,[33] a coastal State is free to build constructions in its territorial waters as long as they do not completely bar or unreasonably interfere with the right of innocent passage. Furthermore, the coastal State has the right to suspend innocent passage temporarily in specified areas of the territorial sea if it is necessary for the protection of its security. According to Article 25(3) of the LOSC: 'The coastal State may, without discrimination in form or in fact among foreign ships, suspend temporarily in specified areas of its territorial sea the innocent passage of foreign ships if such suspension is essential for the protection of its security, including weapons exercises. Such suspension shall take effect only after having been duly published'. The coastal State may also exercise its jurisdiction in the territorial sea and prevent passage in a number of other circumstances such as in the exercise of the coastal States' criminal jurisdiction.[34] Moreover, the coastal State can regulate the passage of foreign ships through its territorial sea where it is concerned about the safety of navigation.[35] However, construction of oil rigs and other installations cannot interfere with international navigation merely for reasons of safety. Finally, the coastal state may establish a safety zone around its offshore oil rigs for their safety and protection.[36]

It can be concluded that oil installations in the territorial sea erected by either the coastal State itself, or by other States with the permission of the coastal State, must not hamper the innocent passage of foreign ships through the territorial sea. This is the most significant limitation on the rights of the coastal States with respect to the construction and operation of oil rigs on their territorial sea.

A question arises here with respect to the rights of the coastal States to

erect and use offshore installations on their territorial sea within international straits.[37] The duties of states bordering straits is described by the LOSC as follows:

> States bordering straits shall not hamper transit passage and shall give appropriate publicity to any danger to navigation or overflight within or over the strait of which they have knowledge. There shall be no suspension of transit passage.[38]

It appears that the coastal State has much more control over innocent passage through its territorial sea than over transit passage through international straits because the coastal State may suspend the right of innocent passage in its territorial sea temporarily, if such suspension is essential for its security, whereas there must be no suspension of transit passage through international straits. Therefore, the construction of oil rigs and other offshore installations within the territorial sea, where their presence could result in denying, obstructing or suspending the right of transit passage through international straits may not be legal under international law. This is applicable to those international straits 'which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone'.[39]

The sovereign rights of the coastal State over its territorial sea to construct offshore installations may further be restricted because of the principle of state responsibility. This can be inferred from Paragraph 3, Article 2 of the LOSC which states 'the sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law'. A State is responsible, under international law, if it causes any damage to the territory or property of another State.[40] Therefore, the construction of oil rigs and other offshore installations in the territorial sea should not cause any harm to the rights and sovereignty of any other states concerned and in particular the neighbouring States. The construction of structures in certain narrow waters might hinder access to the ports of neighbouring States. It may also affect certain uses of the contiguous part of the high seas or the adjoining territorial sea of other States.

Belgium submitted a proposal[41] to the United Nations Seabed Committee as a working basis for the preparation of sets of draft Articles. The proposal was aimed at clarifying certain aspects of maritime navigation and the construction of offshore installations in the territorial sea. The proposal, however, did not receive much attention from the Committee. The proposed draft articles read as follow:

> Article (a): The coastal State is entitled to construct artificial islands or immovable installations in its territorial sea; it must not, through such structures, impede access to the ports of a neighbouring State or cause damage to the marine environment of the territorial seas of neighbouring States. Article (b): Before commencing the construction of artificial islands or installations as mentioned in the preceding article, the coastal State shall publish the plans thereof and take into consideration any observation submitted to it by other States. In the event of disagreement, an interested State which deems itself injured may appeal to IMCO,[42] which though not empowered to prohibit the construction may prescribe such changes or adjustments as it considers essential to safeguard the lawful interests of other States.

The proposed Article (a) has been described as incomplete since it lacks provisions related to the prevention of unreasonable interference, which may result from such structures, in relation to the right of innocent passage by foreign ships.[43] The provisions of Article (b), on the other hand have been considered an entirely new approach.[44]

4.2.3 In the Exclusive Economic Zone

The Exclusive Economic Zone (EEZ) is a zone beyond and adjacent to the territorial sea extending up to 200 miles from the baseline. The EEZ must not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.[45] According to the LOSC, the residual status of the EEZ is not that of the high seas, and the jurisdiction of the coastal State and other States in this area has to be determined by the provisions of the Convention.[46] However, the freedoms of navigation, overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of the Convention as referred in to Article 87 of the LOSC are preserved in the EEZ.[47] The historical roots of the EEZ lie in the increasing trend since 1945 to extend the jurisdiction of the coastal State ever seawards. However, the concept of the EEZ is recent.[48] In the 1958 Geneva Convention on the Continental Shelf, artificial islands, offshore installations and structures were addressed in the context of the Continental Shelf.[49]

In the EEZ the coastal State has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources of the waters superjacent to the seabed and of the seabed and its subsoil.[50] The coastal State also has jurisdiction, as provided for in the relevant provisions of the LOSC, with regard to the establishment and use of artificial islands, installations and structures.[51] The detailed rules and provisions regarding the construction, operation and use of all offshore installations and artificial

islands are set forth in Article 60 of the LOSC:

> 1. In the Exclusive Economic Zone, the coastal State shall have the exclusive right to construct and regulate the construction, operation and use of :
>   (a) artificial islands;
>   (b) installations and structures for the purposes provided for in Article 56 and other economic purposes;
>   (c) installations and structures which may interfere with the exercise of the rights of the coastal State in the zone.
> 2. The coastal State shall have exclusive jurisdiction over such artificial islands, installations and structures, including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations...

Article 60 addresses the exclusive right of coastal States to construct, to authorise and to regulate the construction, operation and use of three objects in the EEZ. These are artificial islands, installations and structures for the purposes of exploring and exploiting the natural resources of the sea, and installations and structures for other economic purposes. It may seem that the construction and use of other kinds of installations, such as military installations, are excluded by Article 60. However, Paragraph (c) of Article 60, which extends the right of the coastal State over 'installations and structures which may interfere with the exercise of the rights of the coastal State in the zone', constitutes a blanket provision which may extend the authorisation of the coastal State over almost all kinds of installations and structures in the EEZ. This means that the rights of other states to establish any kind of artificial island, oil rig or other installation is strictly limited to those authorised by the coastal State. However, by virtue of Article 60(1)(c), installations for purposes other than the exploration and exploitation of the natural resources of the sea and other economic purposes, such as military installations, may be established by States other than the coastal State. However, this is only allowed if the construction of such structures does not interfere with the exercise of the rights of the coastal State in the zone. The logic behind this conclusion is the fact that the EEZ is economic in nature. Thus, the exclusive right of the coastal State to construct, authorise and regulate the construction, operation and use of military installations is not intended to be included among the rights of the coastal States. However, not all countries are in agreement with this conclusion. Some countries such as Brazil, Cape Verde and Uruguay, in their signature and ratification of the LOSC declared that in accordance with the provisions of LOSC, their understanding is that the coastal State has, in the EEZ and on the Continental shelf, the right to construct and to authorise the construction of all types of installations whatever their nature or purpose.[52]

The coastal State has the right to establish safety zones, which would normally not exceed 500 metres in breadth, around oil installations.[53] The legal status of the safety zone around offshore installations will be discussed in detail in the following chapter.[54]

In certain respects, the rights of the coastal State in relation to the construction of offshore installations in the EEZ are restricted. The coastal State is required to give due notice of the construction of artificial islands, installations and structures, and must maintain permanent means for giving warning of their presence.[55] Furthermore, 'artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognised sea lanes essential to international navigation'.[56] These provisions of the LOSC are discussed in the next chapter of this study.[57]

States have enacted legislation to regulate the exploration and exploitation of the natural resources of the sea within the area of the EEZ. In particular, the construction and operation of oil rigs and other installations on the EEZ is regulated by many States.[58]

In summary, the coastal State has the exclusive right in the EEZ to construct or authorise the construction of artificial islands, oil rigs and offshore installations for the purpose of the exploration and exploitation of the natural resources of the sea and other economic purposes. The coastal State also has similar rights with respect to the construction and use of any other installations which may interfere with the exercise of the rights of the coastal State in the zone. The rights of the coastal State are restricted or are subject to certain conditions in a number of instances. The coastal State is not allowed to establish oil rigs and other installations which may cause interference with the use of recognised sea lanes essential to international navigation.

4.2.4 In the Area of the Continental Shelf

Although the position of the continental shelf in international law has not been weakened by the LOSC, the new concept of the EEZ in the LOSC has created a certain amount of duplication and confusion.[59] It can be said more or less, that there are now two legal regimes for coastal States' rights in relation to the natural resources of the seabed area which are on the EEZ and the continental shelf.[60] The coastal State has sovereign rights over its continental shelf only for the purpose of exploring it and exploiting its non living[61] natural resources. Whereas, in their EEZ, coastal States have sovereign rights for the purpose of exploring and exploiting the natural resources, whether living or non-living, and sovereign rights with regard to other economic activities such as the production of energy from the water.[62] Practically speaking, to the extent that the EEZ and the continental shelf coexist, which means within the area of 200 nautical miles, the same legal

regime will be applied on both the continental shelf and the EEZ. However, in cases where the geomorphologic continental margin extends beyond 200 nautical miles, and where a coastal State has not established an EEZ, only the legal regime pertaining to the continental shelf will be applied. This means that coastal States are entitled to exercise jurisdiction over the adjacent continental margin beyond 200 nautical miles. However, their sovereign rights in that area are limited to the exploitation of mainly non living natural resources of the seabed. Therefore, in the adjacent continental margin beyond 200 nautical miles the waters are legally considered to be the high seas.

Historically, the doctrine of the continental shelf was established by the proclamation of President Truman of the USA in 1945, in which he asserted that the natural resources of the subsoil and the seabed of the continental shelf belong to the coastal State.[63] The idea of the continental shelf was firmly installed in international law by the 1958 Geneva Convention on the Continental Shelf.[64] The LOSC recognised the doctrine of the continental shelf. It also provides certain provisions in respect of rights and duties of the coastal States and other States in the area of the continental shelf. In relation to the definition of the continental shelf, Article 76(1) of the LOSC provides:

> The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.

The legal definition of the continental shelf includes a reference to another geomorphic feature, the outer edge of the continental margin. A geomorphic definition of the continental margin is provided by Article 76(3): 'The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof'.

Therefore, according to Article 76, States may exercise jurisdiction over their adjacent continental margin beyond 200 nautical miles. In this instance the continental shelf extends beyond the EEZ and the special provisions of Articles 76(4-8), 82 and Annex II of the LOSC will be applied.

Within the area of the continental shelf, the coastal State has sovereign rights for the purpose of exploring and exploiting the natural resources of the continental shelf.[65] Therefore, the coastal States' rights are limited to the exploration of the shelf and exploitation of its natural resources.[66] The coastal State also has the exclusive right to authorise and regulate drilling on

the continental shelf for all purposes.[67] The coastal States' sovereign rights for the purpose of exploring and exploiting the natural resources of the continental shelf are exclusive in the sense that no State has the right to undertake such activities without the coastal States' consent.[68] These rights do not depend on occupation, effective or notional, or on any express proclamation.[69]

According to Article 80 of the LOSC the provisions of Article 60 concerning artificial islands, installations and structures in the EEZ apply, *mutatis mutandis*, to artificial islands and installations on the continental shelf. The coastal State therefore has the exclusive right to authorise and regulate the construction, operation and use of installations and structures for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, current and winds, and other economic purposes.[70] Although, the rights of the coastal State on the continental shelf are limited to the exploration of the shelf and exploitation of its natural resources,[71] by virtue of Article 80 of the LOSC, it can be extended to the construction and operation of installations and structures for any economic uses or purposes.[72] Other States are not permitted to build any construction on the continental shelf without the permission of the coastal State, if such constructions may interfere with the exercise of the rights of the coastal State.[73]

There is some confusion with respect to the establishment and operation of oil rigs and artificial islands in the geomorphologic continental margin beyond 200 nautical miles. According to Article 80 of the LOSC, the provisions of Article 60 of the Convention apply to installations on the continental shelf. As already stated, Article 60 gives the coastal State the exclusive right to construct, authorise and to regulate the construction, operation and use of artificial islands and installations for the purpose of exploring and exploiting the natural resources of the sea and other economic purposes.[74] The coastal State further has the exclusive right to construct, authorise, and to regulate the construction, operation and use of those installations which may interfere with the exercise of the rights of the coastal State.[75] This means that by virtue of Article 80 of the LOSC the coastal State has the exclusive right to establish installations and artificial islands for all economic purposes if the geomorphologic continental margin extends beyond 200 nautical miles. At the same time in accordance with Article 77 the rights of the coastal State over the continental shelf are limited to the exploration of the continental shelf and exploitation of its non-living natural resources. Further, the superjacent waters in that area are considered to be high seas. Therefore, the rights of States other than the coastal State in that

area with respect to the construction of artificial islands, oil rigs and other offshore installations are regulated by the provisions of Article 87 and Part VI of the LOSC. Thus, if the Convention is interpreted literally, a conflict arises. On the other hand, the coastal State in the geomorphology continental margin beyond 200 nautical miles, by virtue of Articles 80, 60 and 56, has the exclusive right to establish offshore installations for any economic purpose including the exploration of that same area and the exploitation of its natural resources and installations which may interfere with the exercise of that right. At the same time according to Article 77, the coastal State only has sovereign rights for the purpose of exploring the continental shelf and exploiting its natural resources. To solve the conflict, it may be inferred that the rights of the coastal State to establish artificial islands and installations for economic purposes other than the exploration of the sea and exploitation of its natural resources in the geomorphology continental margin beyond 200 nautical miles are not exclusive. Therefore, based on Articles 58, 60 and 87 non-coastal States are also permitted to establish artificial islands and offshore installations in the area of the geomorphologic continental margin beyond 200 nautical miles for economic purposes if those installations do not interfere with the exercise of the rights of the coastal State. However, it is obvious that States other than the coastal State are not allowed to establish and operate oil rigs without the authorisation of the coastal State.

As discussed above, with respect to the EEZ States other than the coastal State by virtue of Article 60(1)(c) of the LOSC, are not allowed to build any construction on the continental shelf without the permission of the coastal State if that construction may interfere with the exercise of the rights of the coastal State in the zone. It has been said that the term 'may interfere' in Article 60(1)(c) can include any construction, irrespective of its purpose, which is established on the continental shelf or the EEZ of the coastal State without its permission.[76] This idea indicates that the construction and operation of any installation in the EEZ on the continental shelf and in the continental margin beyond 200 nautical miles, is subject to the exclusive jurisdiction, authorisation and control of the coastal State. The logic behind this conclusion is that the security interests of the coastal States may be endangered by the establishment of any installations by non-coastal States. This position is supported by a number of publicists. According to McDougal and Burke:

> We suggest that the major policies reviewed in connection with recognising exclusive coastal authority for mineral and other exploitation of the seabed and subsoil might be regarded as equally determinative here, and that, in particular, consideration of coastal security and of honouring the now-recognised authority over the continental shelf for exploitative purposes make it imperative to recognise exclusive coastal control over any use of the continental shelf which requires emplacing relatively fixed installations. It would be most inadvisable, for example, to permit an uncontrolled competence in non-coastal states to erect structures on the continental shelf, while at the same time authorising the coastal state to exploit the natural resources of the continental shelf. The possibilities of conflict are too obvious.[77]

During the negotiations in UNCLOS III, Ecuador, Panama, and Peru submitted a working paper with respect to offshore installations in the 'adjacent sea'.[78] The Working Paper defines 'the sea adjacent' as an area of the coast up to a limit not exceeding a distance of 200 nautical miles.[79] It then provides that: 'the emplacement and use of artificial islands and other installations and devices on the surface of the sea, in the water column and on the bed or in the subsoil of the adjacent sea shall be subject to authorisation and regulation by the coastal State'.[80]

Belgium also proposed a working paper[81] on artificial islands and offshore installations. The proposal empowered the coastal State to authorise the construction of artificial islands and fixed installations on its continental shelf for purposes other than the exploration and exploitation of natural resources. However, the rights of the coastal State remain subject to specific conditions including the requirement of publishing the plan thereof and taking into consideration any observations submitted to it by other States.

> Article (c): The coastal State may, on the conditions specified in the following article, authorise the construction on its continental shelf of artificial islands or immovable installations serving purposes other than the exploration or exploitation of natural resources ...
> Article (d): Before commencing the construction of artificial islands or installations as mentioned in article (c), the State shall publish the plans thereof and take into consideration any observations submitted to it by other State. In the event of disagreement, an interested State which deems itself injured may appeal to ...,[82] which shall prescribe where appropriate, such changes or adjustments as it considers essential to safeguard the lawful interests of other States.[83]

However, the wording of Article 60(1)(c) does not reject the possibility of the emplacement of offshore installations by a non-coastal State on the EEZ. It appears that the construction of certain installations other than oil rigs and installations for economic purposes, may not interfere with the exercise of the rights of the coastal State in the zone. For example, the erection of certain military installations for peaceful means or installations for detecting the passage of submarines, particularly on the continental margin beyond 200 nautical miles, may not interfere with the exercise of the economic rights of

the coastal State to explore the EEZ and continental shelf and exploit its natural resources.[84] It has been said that the construction of an offshore installation which does not cause significant long-term damage to the natural resources of the EEZ and its seabed, of which the coastal State and its nationals are for the time being unaware, may not be considered 'as interfering with the exercise of the rights of the coastal State in the zone during that time'.[85]

On the basis of Article 60(1)(c) of the LOSC, it appears that the coastal State can claim that the establishment of any offshore installations may interfere with its rights in the EEZ and on the continental shelf. However, it seems that disputes must be resolved in accordance with Article 59 and Part XV of the LOSC which deals with the settlement of disputes between States' parties to the LOSC. In this respect one must distinguish between temporary and permanent installations. Further, the type of installation becomes important when it is necessary to determine the existence of any interference resulting from the emplacement of an offshore structure on the EEZ by a non-coastal State. Perhaps the emplacement of a temporary, small installation other than an oil rig and an installation for any economic purpose, for a peaceful military purpose may not interfere with the exercise of the rights of the coastal States in the EEZ.

The right of the coastal State to regulate the establishment and operation of oil rigs and other offshore installations on its continental shelf, is regulated in many countries by national legislation.[86] For example, in the United States Outer Continental Shelf Land Act, '... the subsoil and seabed of the outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control and power of disposition ...'.[87] The Act also provides that the 'constitution and laws and civil and political jurisdiction of the United States ... to the subsoil and seabed of the outer Continental Shelf and to all artificial islands and fixed structures which may be erected thereon for the purpose of exploring for, developing, removing and transporting resources therefrom, to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State'.[88]

In some respects, the jurisdiction and rights of the coastal State in relation to the construction of installations on the continental shelf are limited. The activities and the exercise of the coastal State in respect to the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for by the LOSC.[89] Further, 'due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organisation ...'[90]

In addition, the freedom of navigation should be considered and offshore installations and the safety zone around them 'may not be established where interference may be caused to the use of recognised sea lanes essential to international navigation'.[91] These legal issues as they pertain to oil rigs and other installations will be discussed in the following chapters.[92]

Finally, offshore structures and installations 'have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf'.[93] This aspect of oil rigs was discussed in Chapter 2 above.

4.2.5 On the High Seas

In the 1958 Geneva Convention on the High Seas, the term 'high seas' was defined as 'all parts of the sea not included in the territorial sea or in the internal waters of a state'.[94] However, the LOSC does not define the high seas. It provides that the high seas rules in Part VII apply to 'all parts of the sea that are not included in the exclusive economic zone, territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State'.[95] The LOSC's approach was the result of extensive negotiations with respect to the issue of the application of the high seas regime to the EEZ.[96]

All states, whether coastal or not, have the right to exercise high seas freedoms. These are freedom of navigation, freedom of overflight, freedom to lay submarine cables and pipelines,[97] freedom to construct artificial islands and other installations permitted under international law,[98] freedom of fishing[99] and the freedom of scientific research, subject to Parts VI and XIII of the LOSC.[100]

The construction of offshore installations and artificial islands on the high seas is one of the freedoms conferred on States by the 1982 LOSC.[101] It was not referred to in the 1958 Geneva Convention on the High Seas[102] because at that time technology was not sufficiently advanced to enable the exploration of the subsoil of the high seas and the exploitation of its natural resources. Furthermore, the use of the high seas for other economic purposes, which required the establishment of offshore installations and artificial islands was almost impossible. Thus, in a comment in 1956 the International Law Commission (ILC) stated that the exploitation or exploration of the subsoil of the high seas 'has not yet assumed sufficient practical importance to justify special regulation'.[103] However, in the early 1980s the exploration of the subsoil of the high seas and the exploitation of its mineral resources was finally made possible by advanced technology. Accordingly, the LOSC made reference to the construction of artificial islands and offshore installations as one of the freedoms of the high seas. According to Article 87(1)(d) of the LOSC, both coastal and land-locked States 'have freedom to construct artificial islands and other installations permitted under international law,

subject to Part VI'. Part VI of the LOSC is concerned with the continental shelf. According to this part the coastal State has exclusive rights over the continental shelf for the purpose of exploring and exploiting its natural resources.[104] Moreover, the coastal State has exclusive rights to construct, authorise and to regulate the construction, operation and use of artificial islands, offshore installations and structures on the continental shelf.[105] Therefore, by virtue of the phrase 'subject to Part VI' in Article 78(1)(d), the freedom to construct offshore installations of all kinds, and artificial islands, particularly oil rigs, on the water superjacent to the continental shelf is subject to the authorisation of the coastal State. It might be said that the freedom to construct artificial islands and installations for purposes unrelated to the exploration and exploitation of the natural resources of the seabed is available to non-coastal States on that part of the high seas where the outer edge of the continental margin lies more than 200 miles breadth of the EEZ.[106] This idea is supported by both Articles 78 and 77 of the LOSC. Article 78 provides that 'the rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those waters'. Article 77 restricts the rights of the coastal State over the continental shelf to sovereign rights only for the purpose of exploring and exploiting its natural resources. However, in accordance with Articles 80 and 60 the coastal States have exclusive rights over the construction of offshore installations and structures for the purposes mentioned in Article 60 of the LOSC which includes all economic purposes. Thus, if we accept that the coastal State has the exclusive right to construct and authorise the construction of installations for the purpose of the exploration of the seabed and the exploitation of its natural resources and all other economic purposes, then the following applies: the freedom of high seas, within the limits of the national jurisdiction of the coastal State, with respect to the construction of artificial islands and offshore installations will be restricted only to those installations which are unrelated to the exploration of the seabed and exploitation of its natural resources and all other economic purposes which do not interfere with the exercise of the rights of the coastal State. Therefore, the construction of fixed offshore oil and gas rigs and the operation of mobile oil drilling units on the high seas, within the EEZ and on the superjacent waters of the continental shelf where the outer edge of the continental margin lies more than 200 miles, is subject to the authorisation of the coastal State.

States who undertake the construction of installations in the high seas also have an obligation not to create unreasonable interference with fishing,[107] scientific research,[108] laying or maintaining submarine cables or pipelines[109] and the conservation of living resources.[110] In addition, the construction of oil rigs on the high seas should not cause harmful effects to the marine environment. The environmental problems related to the production of oil from oil rigs will be discussed in detail elsewhere in this work.[111]

According to the LOSC, no State may validly purport to subject any part of the high seas to its sovereignty.[112] A question arises at this juncture as to whether erecting certain types of oil rigs which are fixed on the seabed may use an area of the high seas in a manner that is both permanent and exclusive. Therefore, this may subject these areas to a particular state's sovereignty. However, the permanent and exclusive use of installations is permitted in so far as such usage does not lead to a claim of sovereignty by a State.[113] Further, a number of activities which demonstrate a permanence in character and require equipment embedded in the sea floor of the high seas are already permitted under international law.

The 1958 Geneva Convention on the Fishing and Conservation of the Living Resources of the High Seas provides that 'the regulation of fisheries conducted by means of equipment embedded in the floor of the sea'[114] in areas of the high seas adjacent to the territorial sea of a State may be undertaken by that State where such fisheries have long been maintained and conducted by its nationals, provided that non-nationals are permitted to participate in such activities on an equal footing with nationals except in areas where such fisheries have by long usage been exclusively enjoyed by such nationals ...'.[115] In its working paper, submitted to the United Nations Seabed Committee in relation to the construction of artificial islands and installations on the high seas beyond the limits of national jurisdiction Belgium proposed that 'any construction of artificial islands or immovable installations on the high seas beyond the limits of the continental shelf shall be subject to the authority and jurisdiction of the international machinery for the seabed. The international authority may authorise a State to erect such islands or installations and delegate jurisdiction over such structures to that State'.[116]

The 1982 LOSC, as well as the 1958 Geneva Convention on the High Seas, does not refer to natural persons and bodies corporate under private law being authorised to erect offshore installations in the area of the high seas. Article 2 of the 1958 Convention on the High Seas refers only to States. Therefore, the freedoms of the high seas are considered only as the rights of States. Accordingly, under the High Seas Convention, natural persons and private companies are not able to construct artificial islands or installations on the high seas except with the authority of a State willing to accept the responsibility.[117] Similarly, the text of Article 87 envisages that only States enjoy the freedoms of the high seas. Thus, private entities may not construct artificial islands or installations on the high seas. This means that the construction of offshore installations may only be undertaken by States or under the authority and responsibility of a State.[118] Where, as a result of the establishment of offshore installations, any damage is caused to the rights or interests of another State, the normal rules of State Responsibility will be applied.[119]

4.2.6 In the International Seabed Area

The construction of oil rigs in the Area,[120] which is beyond the limits of the EEZ and the continental shelf, for the purpose of the exploitation of its resources is within the scope of the deep seabed regime. Therefore, it can be said that it is subject to the authorisation of the International Seabed Authority. However, the establishment of any other installations and artificial islands is subject to the freedoms of the high seas. Therefore, all States may establish artificial islands and offshore installations except for oil rigs and installations for the exploitation of solid resources.

The problem of legal regimes governing seabed resources has been the subject of negotiation since 1967, ultimately resulting in the inclusion of Part XI of the LOSC.[121]

According to Part XI of the LOSC, the area and its resources are the common heritage of mankind[122] and no State or other entity may claim or exercise sovereignty or acquire rights to the minerals of the Area[123] except under the system established in the Convention.[124] All activities in the Area are to be carried out for the benefit of mankind as a whole, whether coastal or landlocked, taking into consideration the interests and needs of developing States and of people who have not attained full independence or other self-governing status as recognised by the United Nations.[125] The International Seabed Authority is the international body established by the UN Convention in order to exercise overall responsibility for the control and organisation of the exploration and exploitation of the deep seabed.[126] Article 153(1) of the Convention provides that 'Activities in the Area shall be organised, carried out and controlled by the Authority on behalf of mankind as a whole in accordance with this article as well as other relevant provisions of this Part and the relevant Annexes, and the rules, regulations and procedures of the Authority'. It is further provided by the Convention that 'The Authority shall have the right to take at any time any measures provided for under this part to ensure compliance with its provisions and the exercise of the functions of control and regulation assigned to it thereunder or under any contract. The Authority shall have the right to inspect all installations in the Area used in connection with activities in the Area'.[127] Other general principles of the Law of the Sea Convention in relation to the legal status and general conduct, peaceful use, equitable sharing, rights of coastal States, transfer of technology, scientific research, protection of the marine environment and the effective participation of developing states in the Area are regulated by Articles 138-149 of the Convention.[128] An Agreement relating to the implementation of Part XI of the LOSC was adopted be the UN General Assembly in 1994.[129] The purpose of this Agreement was to remove the obstacle raised by the major industrialised powers.[130]

According to Article 147 of the LOSC, 'installations used for carrying out activities in the Area shall be erected, emplaced and removed solely in accordance with Part XI and subject to the rules, regulations and procedures of the Authority'.[131] 'Activities in the Area' is defined as all activities of exploration for, and exploitation of the resources of the Area.[132] 'Resources' of the Area means 'all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules'.[133] It appears in this instance that the erection of oil rigs, for the exploration of the Area and exploitation of its liquid and gaseous minerals, and installations for the exploitation of solid resources are subject to the rules and regulation of the Authority. Activities with respect to the exploration of the Area and the exploitation of its solid minerals such as polymetallic nodules are still in its very early stages. Whereas, exploration and exploitation for oil and gas in the Area may now be feasible. It is clear that the provisions of Part XI of the LOSC regarding the establishment and the use of offshore installations are only concerned with certain installations for the purpose of exploiting the solid natural resources of the seabed. Therefore, artificial islands and installations for all other purposes are subject to the provisions of the LOSC in regard to the high seas.

Article 147 further provides that 'due notice must be given of the erection, emplacement and removal of such installations, and permanent means for giving warning of their presence must be maintained'.[134] The installations in the Area should not cause any interference to the use of recognised sea lanes essential to international navigation or in areas of intense fishing activity.[135] Offshore installations in the international Seabed Area have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.[136] These provisions are similar to provisions related to installations and structures which are placed on the continental shelf and the EEZ. These legal issues concerning oil installations will be examined elsewhere in this study.[137]

The LOSC also establishes certain restrictions in relation to activities which are not related to the process of the exploration and exploitation of the natural resources of the seabed. According to the Convention all activities in the marine environment which are unrelated to the exploration and exploitation of the natural resources of the seabed, must be conducted with reasonable regard for activities in the Area.[138] Therefore, any activities, including the erection of installations for any purpose, unrelated to the exploration of the seabed and exploitation of its natural resources in the Area, should be conducted in such a way that it does not interfere with the exploration of the seabed and the exploitation of its natural resources. This implies that since the establishment of any kind of artificial island or offshore installation for any purpose in the Area may interfere with the exploration of the seabed and exploitation of its natural resources, the Authority should have the power to authorise the construction of other installations and control

their activities. This was considered in a working paper on artificial islands and installations, submitted by Belgium to the United Nations Seabed Committee, in which it was stated: 'Any construction of an artificial island or immovable installation on the high seas beyond the limits of the continental shelf shall be subject to the Authority and jurisdiction of the international machinery for the seabed. The international authority may authorise a State to erect such island or installations and delegate jurisdiction over such structures to that State'.[139] However, the wording of the LOSC does not imply that any activities in the Area, including the establishment of all kinds of installations, should be authorised or controlled by the Authority. The LOSC is only concerned with oil rigs. Therefore, the construction of all other installations and artificial islands for any other purposes, unrelated to the exploration for or the exploitation of the natural resources of the seabed, for peaceful purposes, will be subject to the freedoms of the high seas.

4.3 Control and Exercise of Jurisdiction Over Oil Rigs

If a State establishes, or authorises the establishment of, an oil rig or an artificial island outside its territorial waters, the question regarding who has jurisdiction over the activities and people on board may be raised. The physical nature of oil rigs, mobile or fixed, and their location affects the question of jurisdiction. The question of jurisdiction over oil rigs on the EEZ and continental shelf is different from the question of jurisdiction on the high seas beyond the limits of the EEZ and continental shelf.

It is obvious that a territorial type of sovereignty over the high seas is not available. This is demonstrated by Article 89 of the LOSC which says 'no State may validly purport to subject any part of the high seas to its sovereignty'. This means that a constructing State would not have the same complete jurisdiction with respect to all legal matters over its oil rigs on the high seas as it has over its installations within its internal and territorial sea, except by way of analogy with the jurisdiction over ships.

As discussed above, with respect to the jurisdiction to construct oil rigs in internal waters and the territorial sea, the coastal State enjoys full territorial sovereignty over its internal waters. However, the jurisdiction of States in relation to activities and people on board oil rigs on the continental shelf, the EEZ, and the high seas is not clear. The LOSC indicates that on the EEZ and continental shelf, the coastal State has exclusive jurisdiction over oil rigs and other installations including jurisdiction with regard to customs, fiscal, health, safety, immigration laws and regulations.[140]

4.3.1 Criminal Jurisdiction

The application of criminal law on board or in relation to oil rigs in different parts of the sea may be a matter of international dispute. There are a significant number of people who work on board or in relation to oil rigs. These workers may be involved in violence and criminal activities. The question of the jurisdiction of a State over criminal acts committed on board oil rigs is not well-defined. Does the coastal State have jurisdiction over crimes committed and criminals on board offshore oil rigs in internal and territorial waters? Which State has criminal jurisdiction over crimes committed on board or in relation to oil rigs in the EEZ and on the continental shelf? Finally, who is competent to try offenders on board oil rigs on the high seas beyond the limits of national jurisdiction?

4.3.1.1 In Internal Waters Since internal waters are considered as an integral part of the coastal State and no right of innocent passage attaches to them, the LOSC does not provide detailed regulations with respect to the legal status of this part of the sea. Rather, it merely provides a general description of the delimitation of the internal waters.[141] The coastal State enjoys full territorial sovereignty over its internal waters. This was confirmed by the International Court of Justice in the *Nicaragua Case*[142] in which it was held that the full sovereignty of the coastal State extends to its internal waters.[143] Therefore, it is evident that in internal waters the criminal law of the coastal State is enforceable on board fixed oil rigs and artificial islands. However, it is not clear which country's law should apply to mobile oil rigs, particularly drilling ships. The applicable criminal law on board or in relation to mobile drilling units in internal waters may vary from State to State. If a State treats mobile rigs as ships then the law of the flag State may be applied to them. There are different views and practice amongst States with respect to the applicable law on board ships in internal waters. According to the Anglo-American position, the jurisdiction of a coastal State over foreign ships in its ports and internal waters is completely applicable, however, the enforcement of jurisdiction may be forgone by the coastal State as a matter of policy.[144] On the other hand according to the French approach a coastal State does not have any jurisdiction over the internal affairs of foreign ships in its ports and internal waters.[145] In practice States will usually assert jurisdiction when the offence endangers the peace or security of the coastal State or where they are requested to intervene by the captain or consul of the flag State.[146] If any type of oil rigs are considered ships in the national law of a country, then either the law of flag or the coastal States' law may be applied over offences committed on board. However, if oil rigs are considered to be a separate category, then the coastal State has criminal jurisdiction over the offences on board or in relation to oil rigs in its internal

waters just as it has jurisdiction over its territory.

4.3.1.2 In the Territorial Seas The general sovereignty which the coastal State enjoys over its territory extends to the outer limit of the internal waters and the territorial sea. This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.[147] This sovereignty is only restricted by the right of innocent passage.[148]

The exercise of criminal jurisdiction[149] on board or in relation to an oil rig on the territorial sea is not regulated precisely by the LOSC and therefore must be discussed under the general principles of international law and the relative regulations of the LOSC and the practice of States.

The question of the jurisdiction of a State, over criminal acts committed on board offshore oil rigs, either owned or authorised by the coastal State in its territorial seas is a new subject in the international law of the sea. Certain types of oil rigs, such as drilling ships, may be considered to be ships and are therefore subject to the same international law regime as ships when they are in the territorial sea of a coastal State for the purpose of lateral passage only.[150] However, the situation is different if these drilling ships are in the territorial sea of a coastal State for the purpose of either drilling wells or the exploitation of oil and gas. In this situation, if criminal activities are committed, which State has the jurisdiction to intervene; the coastal State or the State which owns the drilling ship? What would the situation be when an offence is committed on a fixed oil rig, owned by a foreign State or company in the territorial waters of a coastal State.

It appears that if a drilling ship is passing through the territorial sea, without being involved in the exploration of the sea or exploitation of its natural resources according to Article 27 and other relevant provisions of the LOSC, it is subject to the same laws and regulations as merchant and government ships operated for a commercial purpose. According to the LOSC, Article 27, the coastal State should not exercise criminal jurisdiction on board a foreign ship passing through the territorial sea. This applies where it is the intention to arrest any person or to conduct any investigation in connection with any crime committed on board the ship during its passage. However, there are exceptions, where:

(a) the consequences of the crime extend to the coastal State;
(b) the crime is of a kind to disturb the peace of the country or the good order of the territorial sea;
(c) the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State; or
(d) such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.

Categories (a), (b) and (c) are based on the traditional principle of jurisdiction in regard to the territorial sea and category (d) "can be explained only on the basis of an increasing tendency to 'universalise' jurisdiction in such matters as narcotic drugs, hijacking and terrorism, by way of analogy to the historic instance of piracy".[151]

A drilling ship passing through the territorial sea would, by most national laws and international conventions, be considered a ship. Therefore, it enjoys the right of innocent passage. However, in cases where a drilling ship with the authorisation of a coastal State is operating in the territorial sea of that coastal State, or in relation to fixed offshore oil rigs which are owned by companies or States other than the coastal State, it seems that Article 27 of the Law of the Sea Convention, which is explicitly related to criminal jurisdiction on board a foreign ship passing through the territorial sea, is not applicable. Therefore, considering the exclusive jurisdiction of the coastal State over its territorial sea,[152] and bearing in mind the fact that the LOSC does not directly address the issue, it could be implied that none of the international law rules and law of the sea provisions would prevent coastal States from enforcing their criminal law on board offshore oil rigs owned by States other than the coastal State. By analogy, it may also be said that by way of Articles 21 and 33 of the LOSC, the coastal State may be able to apply its criminal law on board oil rigs in its territorial seas. Article 21 of the Convention entitles the coastal State to adopt laws and regulations relating to innocent passage through the territorial sea, in respect of certain subjects such as the protection of installations[153], the protection of cables and pipelines[154], the prevention of infringement of the fisheries laws and regulations of the coastal State[155] and the prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal State.[156] This means that the coastal State is entitled to adopt regulations and enforce its law in its territorial sea for a variety of purposes, even with respect to the established right of other States to innocent passage. Similarly, Article 33 of the Convention provides that in the contiguous zone 'the coastal State may exercise the control necessary to: (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea; (b) punish infringement of the above laws and regulations committed within its territory or territorial sea'. It should be noted that the contiguous zone is considered to be both a part of the high seas and also a part of the EEZ.[157]

However, this analogy with Articles 21 and 33 does not establish that the coastal State is empowered to apply its criminal law over oil installations, particularly mobile rigs and drilling ships in its territorial sea. The provisions of Articles 21 and 33 of the LOSC only apply to preventative and punishment actions in relation to in-board and over-board vessels.

4.3.1.3 On the Continental Shelf and EEZ In discussing the application of criminal law on board oil rigs on the continental shelf and the EEZ, the same questions arise as those relating to the territorial sea. The main issue is the question of the jurisdiction of a State over criminal acts committed on board oil rigs, either owned by or whose establishment has been authorised by the coastal State on its continental shelf and EEZ. The situation would be different if the oil rig is a moveable rig such as a drilling ship or a drilling unit which is operating while it is fixed to the seabed. It seems these questions can be discussed in terms of general jurisdiction, the provisions of the LOSC and State practice.

4.3.1.3.1 General Jurisdiction Generally, a State has jurisdiction over any offence committed by anyone within its territory, regardless of nationality, as well as jurisdiction over its nationals wherever they may be.[158]

These principles are based on the territorial theory of jurisdiction and nationality. In these theories, States' jurisdiction is limited to their territory and their citizens. Although most nations follow the territorial theory, there is an exception recognised as the 'protective theory'. This theory holds that a State also has jurisdiction in relation to any crime committed against the security of the State outside of its territory by a foreigner.[159] It is not intended here to discuss the issue of general jurisdiction in detail.

There are also a number of theories with respect to general jurisdiction on the high seas. These include the theory of *res nullius*, the theory of *res communis* or *res publica*, the theory of public domain, the theory of judiciary and the theory of reasonable use.[160] Beside these theories the general principles of the law of the sea and the principles of international law are important in determining the limits of States' jurisdiction on the high seas.

One of the most important principles of the international law of the sea is the principle of the freedom of the high seas. The concept of the freedom of the high seas is restricted in the EEZ and the continental shelf by certain exclusive rights of the coastal State over those areas. The concept of the EEZ introduces a mutual regard for the rights and duties of both the coastal and non-coastal States in a major part of the high seas. Therefore, it seems that beyond States' territorial seas, in the area of the continental shelf and EEZ, the question of jurisdiction is uncertain. As a result, in relation to the application of criminal law on board oil rigs on the continental shelf and the EEZ, principles of international and state law may overlap. In addition, there may be a conflict of law between the law of the coastal State and the law of the other involved countries. Further, the doctrine of freedom of the high seas may be relevant as it indicates that 'in places where no local authority exists, where the subjects of all States meet upon a footing of entire equality and independence, no one State, or any of its subjects, has a right to assume or exercise authority over the subjects of another'.[161]

The International Court of Justice in the *North Sea Continental Shelf Case* held that:

> The rights of the coastal State in respect of the area of the continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources.[162]

4.3.1.3.2 The LOSC Provision Both the 1958 Geneva Convention on the Continental Shelf[163] and the LOSC[164] clearly provide that the coastal State has 'sovereign rights' for the purpose of exploration of the continental shelf and exploitation of its natural resources. The concept of the continental shelf gives rise to certain questions including whether the law of the coastal State applies to the continental shelf and whether there are any limitations upon the laws which may apply to it. For the purpose of this study, the question is whether the coastal State enjoys sovereignty and jurisdictional rights, when oil rigs are established on the continental shelf, including criminal jurisdiction over the people on such installations, by virtue of its sovereign rights for the purpose of exploring and exploiting the natural resources of its continental shelf. The expression 'sovereign' rights deals with the meaning and limit of the continental shelf and 'its legal separation from the waters and their living natural resources'.[165] Further, the expression 'for the purpose of exploration and exploitation of the natural resources' is intended to limit the sovereign rights of the coastal State to the seabed and its natural resources and to leave the waters free.[166] Therefore, a coastal State is entitled to construct installations for the purpose of exploring the continental shelf and exploiting its non-living[167] natural resources. Hence, it is logical to say that the coastal State is empowered to exercise jurisdiction and control over the activities and people on board oil rigs. In fact, control over the activities on board oil rigs on the continental shelf, including criminal jurisdiction is a consequence of the coastal States' sovereign right to explore the continental shelf and exploit its natural resources. Furthermore, by virtue of Article 60(2) of the LOSC, the coastal State has exclusive jurisdiction over oil installations. This means that the coastal State is empowered to interpret and apply its law and regulations, including criminal law, within the limits of its continental shelf. Thus, nothing in international law prevents coastal States from applying their criminal law on board oil installations on the continental shelf. The International Court of Justice in the *North Sea Continental Shelf Case* asserted that 'the right of the coastal State to its continental shelf areas is based on its sovereignty over the land domain, of which the shelf area is the natural prolongation into and under the sea'.[168]

The question of the application of criminal law to installations, other

than oil rigs,[169] erected on the continental shelf was raised in 1964 in relation to the problem of pirate broadcasting.[170] The Government of the Netherlands proposed to enact legislation to prevent broadcasting from a structure which was erected on the seabed of the North Sea on its continental shelf.[171] The Netherlands Government justified its action based on the fact that the structure was placed on its continental shelf and 'the law would then extend the criminal law to installations erected thereon as forming part of the territory of the Netherlands'.[172] Following certain objections to the proposal, the Dutch Government sought an advisory opinion from its International Law Consultative Committee.[173] The Committee confirmed that The Netherlands had jurisdiction to enact the proposed law over the installation, however, the jurisdiction was not considered as a consequence of the theory of the continental shelf.[174] Rather, they considered that the competence was based upon the fact that the Netherlands was the coast nearest to the installation.[175]

4.3.1.3.3 Convention for the Suppression Acts Against the Safety of Maritime Navigation 1988 This Convention allows State parties to make certain acts criminal, such as performing an act of violence against a person on board a ship,[176] destroying a ship, or causing damage to a ship if these acts are likely to endanger the safe navigation of that ship.[177] These sanctions are enforced by applying appropriate penalties which take into account the grave nature of those offences.[178] This Convention applies if the ship is navigating through or from waters beyond the outer limit of the territorial sea of a State, or the lateral limits of its territorial sea with adjacent States.[179] The Convention for the Suppression Acts Against the Safety of Maritime Navigation deals only with offences in relation to ships. Certain types of mobile oil rigs such as submersibles are subject to this Convention as they are considered 'ships' for the purposes of the Convention. This Convention does not supply any provisions concerning illegal acts against fixed oil rigs. However, its 1988 Protocol deals specifically with the issue of illegal acts against fixed oil rigs.

The 1988 Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf,[180] attached to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, applies to fixed platforms located on the continental shelf. According to Article 1 of the Protocol, the provisions of Articles 5 and 7 and of Articles 10 to 16 of the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation also apply *mutatis mutandis* to the offences set forth in Article 2 of this Protocol. This occurs where such offences are committed on board or against fixed platforms located on the continental shelf.[181] Article 2 of the Convention sets forth certain acts as an offence:

> 1. Any person commits an offence if that person unlawfully and intentionally:
>
> (a) seizes or exercises control over a fixed platform by force or threat of or any other form of intimidation; or
>
> (b) performs an act of violence against a person on board a fixed platform if that act is likely to endanger its safety; or
>
> (c) destroys a fixed platform or causes damage to it which is likely to endanger its safety; or
>
> (d) places or causes to be placed on a fixed platform, by any means whatsoever, a device or substance which is likely to destroy that fixed platform or likely to endanger its safety; or
>
> (e) injures or kills any person in connection with the commission or the attempted commission of any of the offences set forth in subparagraphs (a) to (b) ...

The Protocol empowers State parties to take measures necessary to establish its jurisdiction over the offences set forth in Article 2 when the offence is committed:

> (a) against or on board a fixed platform while it is located on the continental shelf of that State; or
>
> (b) by a national of that State.

It is further indicated by Article 4 that the provisions of this Protocol do not affect in any way the rules of international law pertaining to fixed platforms located on the continental shelf.

The Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation and its attached Protocol are related to the suppression of offences against the safety of ships and fixed platforms on the continental shelf. Therefore, State parties may not apply their criminal law over all crimes committed on board or in relation to fixed platforms on their continental shelf by virtue of this Convention and its Protocol. However, it is considered that the criminal jurisdiction of the coastal State has been extended, in certain offences, to the fixed platforms on the continental shelf. This is a constructive step towards the establishment of an international instrument with respect to the application of competent law in relation to or on board oil rigs. It should be pointed out that the 1988 Convention and its Protocol were concerned with terrorism.

4.3.1.3.4 State Practice A number of countries have enacted legislation to apply their criminal law to activities on board or in relation to oil rigs on the continental shelf and the EEZ.

The 1979 Australian Crimes at Sea Act provides that Australian criminal

jurisdiction applies to crimes committed in the area beyond the limits of national jurisdiction in relation to the exploration or exploitation of the continental shelf[182] and in relation to other matters within Australian jurisdiction.[183] This means that the criminal law of Australia applies to both Australian nationals and foreigners who commit offences whilst working on offshore drilling rigs.[184] The 1967 Australian Petroleum (Submerged Lands) Act includes certain provisions with respect to the application of criminal law on board oil rigs. The Act prohibits certain vessels from entering or remaining in the safety zone area around oil rigs without the consent in writing of the Designated Authority.[185] It further provides that if a vessel enters or remains in a safety zone around installations the owner and the person in command or in charge of the vessel are each guilty of an offence and are punishable, upon conviction, by a penalty not exceeding a fine of ten thousand dollars.[186] This legislation indicates the application of the criminal law to a limited extent, mainly with respect to the safety zone around oil rigs. The 1989 Australia-Indonesia Timor Gap Zone of Cooperation Treaty, with respect to criminal jurisdiction in the offshore region generally provides that a national or permanent resident of a Contracting State will be subject to that States' criminal laws in respect of criminal activities which occur in the area in the middle of the Australian and East Timor coast, Area A,[187] 'in connection with or arising out of the exploration for, and exploitation of, petroleum resources'.[188] Moreover, the criminal laws of both Contracting States will be applied to the nationals of any other State, however, such persons will not be subjected to 'double jeopardy'.[189]

According to the 1969 Continental Shelf Act of Belgium, fixed, offshore installations and devices on the continental shelf as well as persons or property on these installations shall be subject to Belgian law.[190] The same Act extends Belgian criminal law to offences committed on an installation or device on the continental shelf of Belgium.[191]

The 1974 Continental Shelf Law of Cyprus treats offshore installations on the continental shelf, for the purpose of criminal jurisdiction, as if they are situated in the district of Nicosia.[192]

The provisions of all Fijian laws, including criminal law, are applicable to any act or omission that takes place in, on, above, below or in the vicinity of offshore installations for the purpose of the exploration of the continental shelf and exploitation of its natural resources.[193] The Fijian law shall also apply to any person who is in, on, above, below or in the vicinity of any such installation or device.[194]

The French law relating to the exploration of the continental shelf provides that oil rigs and their safety zones are subject to the criminal law and criminal procedure in force at the seat of the *tribunal de grande instance* or *tribunal de première instance* under whose jurisdiction they fall.[195]

According to the Irish Continental Shelf Act, any act or omission which

takes place on an installation outside territorial waters over the seabed and subsoil for the purpose of exploring their natural resources and would, if taking place in the State, constitute an offence under the law of the State, shall be deemed, for all purposes relating to the offences, to take place in the State.[196]

The 1966 Malaysian Continental Shelf Act provides that for the purpose of Malaysian law 'every act or omission which takes place on or under or above, or in any waters within five hundred metres of, any installations or device (whether temporary or permanent) constructed, erected, placed, or used in, on, or above the continental shelf in connection with the exploration of the continental shelf or exploration of its natural resources shall be deemed to take place in Malaysia'.[197] The Act also maintains that all installations and devices and waters within five hundred metres of these installations are deemed to be situated in Malaysia.[198] The 1966 Continental Shelf Act of Malta makes the Maltese law applicable to any act or omission which takes place on, under or above an offshore installation on the continental shelf.[199]

The Polish Act concerning the continental shelf generally states that installations and structures for the exploration, investigation and extraction or the exploitation of the natural resources of the Polish continental shelf and the safety zones around them are subject to the law of the Polish Peoples' Republic.[200]

The UK Continental Shelf Act 1964 is intended to make provisions concerning the exploration of the continental shelf. The Act applies the criminal and civil law to acts or omissions taking place in certain waters[201] and deals with the issue of the prosecution of offences under the Act.[202] According to Section 3, the criminal and civil law of the United Kingdom will apply with respect to:

> Any act or omission which
> (a) takes place on, under or above an installation in a designated area or any waters within five hundred metres of such an installation; and
> (b) would, if taking place in any part of the United Kingdom, constitute an offence under the law in force in that part.

The same Section further provides that any such act or omission 'shall be treated for the purposes of that law as taking place in that part'. It also provides that the courts of the United Kingdom may exercise jurisdiction with respect to questions arising out of acts or omissions taking place in a 'designated area',[203] or in any part of such area, in relation to the seabed or subsoil or the exploitation of their natural resources.[204] The Act further states that 'proceedings for any offence under this Act (including offences under another Act as applied by or under this Act and anything that is an

offence by virtue of Section 3(1) of this Act) may be taken, and the offence may for all incidental purposes be treated as having been committed, in any place in the United Kingdom'.[205] Whilst on board any installation in a designated area, a constable is to 'have all the powers, protection and privileges which he has in the area for which he acts as constable'.[206] It is clear from the provisions of the Continental Shelf Act that the criminal jurisdiction of the English Courts is extended to crimes committed on board installations on the continental shelf. Section 2 of the same Act goes further and gives certain power to the Minister of Power for the purpose of the protection of installations in the 500 metre zone around the offshore installations.[207]

According to the United States' Outer Continental Shelf Lands Act, the Constitution on the laws and the civil and political jurisdiction of the United States extends to the artificial islands and fixed structures which may be erected thereon. These structures are for the purpose of exploring, developing, removing and transporting resources therefrom, to the same extent as if the Outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State.[208]

It seems that the trend towards exclusive jurisdiction over oil rigs and the application of the law of the coastal State to them, as recognised by the 1958 Geneva Convention on the Continental Shelf, was also recognised by the 1982 LOSC. These rights were further extended to all installations built on the continental shelf of the coastal State for economic purposes other than its exploration and the exploitation of its natural resources under the latter Convention.[209] The LOSC applies similar provisions to installations erected on the EEZ. It is also clear that the coastal States' exclusive rights are extended to those oil rigs which are operated by States other than the coastal State on the continental shelf of the coastal State.

4.3.1.4 On the High Seas and International Seabed Area It is a principle of international law of the sea that no State has jurisdiction on the high seas.[210] States may extend their criminal authority extraterritorially, on the high seas, only on the bases of personal jurisdiction over nationals,[211] protective jurisdiction[212] or flag State jurisdiction.[213] The *Lotus Case*[214] indicates certain bases upon which courts may exercise jurisdiction over criminal acts on the high seas.[215] In this case the Court held that:

> It cannot be exercised by a State outside its territory except by virtue of a permissive rule derived from international custom or convention. It does not, however, follow that international law prohibits a State from exercising jurisdiction in its own territory, in respect of any case which relates to acts which have taken place abroad, and in which it cannot rely on some permissive rule of international law.[216]

In relation to jurisdiction over offshore oil rigs there is no international custom or convention. Therefore, it would appear that on the high seas only the national State may apply its criminal law over acts committed on oil rigs. However, what is the national State of an oil rig? For example, what is the national State of a rig which is owned by a Luxembourg company, leased to a US corporation, operated by a Singaporean company, and crafted by a united crew of Indian and Filipinos?

It can be said that in the absence of territorial jurisdiction[217] over oil rigs on the high seas, a State may generally apply its law and regulations to their own nationals. In addition, there is no territorial sovereignty upon the high seas. Therefore, a States' national jurisdiction over their nationals and their property extends to oil rigs on the high seas and seabed area.

It might be said that the principle of the flag state should be adopted in relation to oil rigs erected on the high seas. Therefore, the jurisdiction of the flag state and the state in which the rig is registered would extend to the flag state's nationals and properties on oil rigs, plus all other nationals and properties on the rig. However, as discussed in Chapter 2, oil rigs generally, are not considered as ships under international law except in certain specific cases or certain types of rigs such as drilling ships. Therefore, it is not possible to apply the law of flag in relation to oil rigs erected on the high seas and the international seabed area.

What would be the situation in regard to criminal jurisdiction over oil rigs when they are located on the deep seabed beyond the limits of national jurisdiction? It may be said that according to the LOSC, the Authority exercises exclusive jurisdiction over oil rigs because it is empowered to authorise the erection and installations in the Area. It also might be suggested that installations fall within the scope of the jurisdiction of the state which is authorised to erect them. There might also be a distinction between floating rigs such as drilling ships and fixed platforms resting on the seabed. Finally, what is the situation when a licence is granted by the Authority to a non-state entity which does not have a specific national character?

As stated previously[218] offshore installations in the Area should be erected in accordance with Part XI of the UN Convention and subject to the rules, regulations and procedures of the Authority. Therefore, one might say that the International Seabed Authority has exclusive jurisdiction over oil rigs erected on the Area and exercises its authority in relation to the control and regulation as assigned to it in accordance with the LOSC. Although the Authority may on the grounds of its licence and general jurisdiction over the seabed Area, make certain regulations for the implementation of the provisions of the UN Convention, in practical terms, the Authority itself cannot assume overall jurisdiction including civil and criminal jurisdiction. The Authority lacks a code of civil or criminal law or

a judiciary system to effectively exercise jurisdiction over oil rigs on the International Seabed Area.

In the case where the rigs have been erected under a license from the Authority by a non-state entity which does not have a national character the rigs may fall within the jurisdiction of the Authority which may exercise general and international jurisdiction over the installation. However, it does not have criminal jurisdiction.

4.3.2 Civil Jurisdiction

Usually a large number of people work on board oil rigs. Such work is fairly strenuous and involves bending, stooping, climbing and lifting. There are many possible hazards such as falling from rigs or derricks or other parts of platforms, injuries resulting from falling objects as well as abrasions and cuts from various tools and equipment.

A number of the collisions which occur at sea are between ships and oil structures. Finally, operations on offshore oil rigs also may involve a degree of risk which can result from design negligence.

In cases where more than one State is involved, the question of the choice of law in a maritime injury, collision liability or liability due to design can be a matter of great confusion.

4.3.2.1 Compensation Suits and Civil Action for Damages, Injuries and Death International law does not contain any provisions in relation to the question of which law to apply in compensation suits or in a civil action for damages and injuries on board an oil rig. Therefore, the applicable law in a civil injury or death case is a matter of private international law.

The LOSC provides certain provisions in relation to civil jurisdiction as applied to foreign ships on the territorial sea.[219] However, the Convention does not specifically provide for any civil jurisdiction in relation to oil rigs erected on the territorial waters. Nonetheless, the coastal State may have civil jurisdiction in relation to oil pollution damages and injuries on board an oil rig in its territorial sea based on its sovereignty over its internal waters and its bed and subsoil.[220] The civil jurisdiction of the coastal State in relation to compensation, injuries and death on board oil rigs, owned by itself or its nationals in its territorial sea, is less controversial than the question of jurisdiction in relation to those rigs which have been established by other States with the permission of the coastal State. However, in either case the issue is a matter of the choice of law which is dealt with by each State's own law and practice.

Many states have provided enactments in relation to civil jurisdiction over or in connection with offshore oil rigs.

4.3.2.1.1 United States Personal injury and death on board oil rigs is considered to some extent by both United States' legislation and case law. The Longshoremen and Harborworkers Compensation Act[221] contains provisions for compensation in relation to occupational injuries, illnesses, disabilities and death against employers of an offshore structure on the United States' continental shelf. The issue of personal injury cases on the continental shelf is also addressed by the Outer Continental Shelf Lands Act.[222] This Act provides that 'the civil and criminal laws of each adjacent state, now in effect or hereafter adopted, amended or repealed are declared to be the law of the United States for that portion of the subsoil and seabed of the outer Continental Shelf and artificial islands and fixed structures erected thereon, which would be within the area of the State if its boundaries were extended seaward to the outer margin of the outer Continental Shelf ... that applicable laws shall be administered and enforced by the appropriate officers and courts of the United States'.[223]

4.3.2.1.2 Norway According to the Royal Decree of December 8, 1972 Section 53, Norwegian provisions concerning injury and compensation apply to offshore installations and to activities carried out on board such installations over its portion of the continental shelf in the North Sea. The Act further provides that Norwegian tort law will be applied in all cases where damage or inconvenience is caused.[224]

4.3.2.1.3 United Kingdom The Health and Safety at Work Act of 1974[225] is applicable to offshore installations and activities thereon, to 'the survey and preparation of the seabed for an offshore installation', and to certain activities related to the operation of offshore structures such as inspection, testing, construction, repair and maintenance.[226] This Act does not provide civil remedies for death and injuries on oil rigs, instead it establishes certain regulations and provisions for the reduction and prevention of accidents related to oil platforms.

4.3.2.1.4 Australia The Petroleum (Australia-Indonesia Zone of Co-operation) Act 1990 with respect to the jurisdiction of State and Territory courts provides that the courts of each State and Territory are invested with federal jurisdiction in civil matters involving damage suffered or expenses incurred by Australia, by a State or Territory, or by a person who is a national or permanent resident of Australia.[227]

4.3.2.1.5 Other Countries The 1966 Continental Shelf Act of Malta states that for the purpose of section 743 of the Code of Organisation and Civil Procedure (which relates to jurisdiction) any installation or device in a designated area and any waters within five hundred metres of such an

installation or device shall be treated as if they were situated on the island of Malta.[228]

In Belize, a legislation provides that all questions and disputes of a civil nature concerning or arising out of acts or omissions which occur within the limits of the exclusive zone in connection with the exploration for or exploitation of resources and the establishment, construction, operation or use of any artificial islands, installations or structure may be dealt with by a court of competent jurisdiction.

4.3.2.2 Collisions of Ships with Oil Rigs in International Conventions The word 'collision' in context of the law of the sea means an accidental contact between two ships or between a ship and another floating object. However, Professor O'Connell defines a collision suit as 'an action brought in respect of loss or damage to a ship which is involved in a collision with another ship, an installation or a wharf, in which the ascertainment of fault and the determination of damages are the issues'.[229] Since fixed oil rigs and even certain types of mobile offshore rigs are not considered as ships in international law,[230] international conventions concerning collisions between ships are not applicable to oil rigs except in those cases where the convention states or infers that oil rigs are the subject of the convention.

Concerning the collision of ships with oil rigs in international law, there are two controversial issues. The first question is whether oil rigs are the subject of collision conventions either as ships or in their own category as unmovable objects at sea. The second involves the position of domestic legislation and States' practice with respect to the collision of ships with oil rigs.

4.3.2.2.1 The 1910 Collision Convention The International Convention for the Unification of Certain Rules of Law with Respect to Collisions between Vessels sets forth certain provisions in relation to collisions at sea. According to Article 1 of the Convention 'where a collision occurs between sea-going vessels or between sea-going vessels and vessels of inland navigation, the compensation due for damages caused to the vessels, or to any things or persons on board thereof, shall be settled in accordance with the following provisions, in whatever waters the collision take place'. In a number of subsequent Articles, the Convention refers to 'the vessels' and to 'each vessel'. However the word vessel itself is not defined.

4.3.2.2.2 The 1952 Collision Conventions The International Convention on Certain Rules Concerning Civil Jurisdiction in Matters of Collision and the International Convention for the Unification of Certain Rules Relating to Penal Jurisdiction in Matters of Collision or Other Incidents of Navigation[231] both refer to collision. According to Article 1(1) of the former Convention, collision is defined as an action occurring between seagoing vessels or between seagoing vessels and inland navigation craft. The latter Convention refers to collision and any other incident of navigation in relation to a seagoing ship. Neither of these Conventions have defined the word vessel or ship. Therefore, it is possible to conclude that domestic legislation must decide whether the provisions of these Conventions is applicable to collisions between ships and oil rigs.[232]

4.3.2.2.3 The Convention on the International Regulations for Preventing Collisions at Sea 1972 The Convention on the International Regulations for Preventing Collisions at Sea[233] states that its provisions will apply to all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels. The Convention then defines the word 'vessel' to include every description of water craft.[234] It seems that the regulations of this Convention may only be applicable to offshore mobile rigs of whatever kind.[235]

4.3.3 Jurisdiction in Relation to Customs, Fiscal Matters and Immigration

According to Article 60(2) of the LOSC the coastal State has exclusive jurisdiction over offshore oil rigs, artificial islands and other installations including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations. The first phrase of the Article gives the coastal State the right to exclusive jurisdiction over installations in all legal matters in its continental shelf and the EEZ. The second part of the Article gives a number of very important examples of coastal State jurisdiction over and in relation to oil rigs and other installations. A number of international legal questions may be raised in relation to those examples mentioned in Article 60(2) of the LOSC. It is not clear from the provisions of the LOSC which State has jurisdiction, for example with respect to customs and immigration, over oil installations on the continental shelf of the coastal State which are constructed and operated by a foreign country with the permission of the coastal State. Jurisdiction with respect to customs, safety and immigration over installations erected on the high seas, beyond the limits of national jurisdiction and the International Seabed Area also remains uncertain. In this section jurisdiction over offshore oil rigs with regard to customs, fiscal and immigration laws and regulations will be discussed.

4.3.3.1 Customs Goods and equipment may be brought onto oil installations for use in petroleum operations or for other purposes. There is no doubt that the customs laws and regulations of the coastal State will be applied with respect to oil rigs in its internal waters and territorial sea,

because the sovereignty of a coastal State extends beyond its land territory and internal waters to the territorial sea.[236]

According to the LOSC, on the continental shelf and in the EEZ the coastal State has jurisdiction with regard to customs laws and regulations over oil rigs.[237] The LOSC is very clear in this respect. However, when a foreign State with the authorisation of the coastal State, constructs oil rigs on the continental shelf or the EEZ, there may be some complications. It is understood from the wording of the Article that the coastal State, regardless of who owns the oil rigs, has jurisdiction with respect to customs laws on its continental shelf and the EEZ. This may create administrative difficulties. It seems difficult to apply the customs laws and regulations of the coastal State when the installations were constructed and are operated by another State. Nevertheless, customs laws, unlike criminal laws, are not considered to be a serious matter of international dispute with respect to offshore oil rigs. This is partly because a limited number of people work on board oil rigs and the amount of goods and equipment imported onto the installations is limited. Therefore, it can be concluded that in spite of certain administrative difficulties, the coastal State has jurisdiction in all situations with regard to customs law over oil rigs on the continental shelf and the EEZ. It is therefore proper for both the coastal State and foreign States that intend to establish and operate oil rigs on the continental shelf and the EEZ, to include the applicable laws and regulations with regard to customs duties over oil rigs in their mutual agreements.

The issue of jurisdiction with regard to customs laws and regulations over offshore installations on the high seas beyond the limits of national jurisdiction is not clearly defined by the LOSC. Article 147 of the LOSC provides that installations for the purposes of exploration for and exploitation of the resources of the Area shall be erected, emplaced and removed subject to the rules, regulations and procedures of the Authority. This Article of the Convention and other sections are silent about the question of jurisdiction over offshore installations in the Area including jurisdiction with respect to customs. Only Article 183 states that the Authority is exempt from all customs duties for all imported and exported goods utilised for official purposes.

According to the LOSC the Authority is to adapt and apply rules, regulations and procedures with respect to the sharing of financial and other economic benefits derived from activities in the Area.[238] This applies in relation to prospecting, exploration and exploitation in the Area[239] for the exercise of its functions on matters such as administrative procedures, operations and financial matters.[240] The nature of the Authority's power to make regulations is related to administrative and financial matters. This is particularly understandable in light of Article 21 of Annex III of the LOSC. This Article specifies the applicable law in relation to the contract between

the Authority and States concerning the exploration and exploitation of the non-living natural resources of the Area. It provides that the contract shall be governed by the terms of the contract, the rules, regulations and procedures of the Authority, Part XI of the Convention and other rules of international law which are not incompatible with the LOSC.

Considering the fact that no State has jurisdiction in the Area, the law of the flag is not applicable to most oil rigs.[241] Since the Authority is only capable of making rules and regulations in respect of administrative, procedural and financial issues relative to the exploration and exploitation of the seabed area, the issue as to who is the competent State or organisation is not clear. If customs duties are considered to be administrative and financial matters then, undoubtedly, the Authority is competent to regulate customs duties in the Area.

A number of States have enacted domestic legislation containing certain provisions which apply to customs duties over oil rigs on their continental shelf and the EEZ.

In Australia the Sea Installations (Miscellaneous Amendments) Act 1987 (Cth) has made a number of substantial amendments to the Customs Act 1901 (Cth). The Sea Installations (Miscellaneous Amendments) Act prohibits the establishment or operation of an installation without first obtaining the permission of the Comptroller of Customs.[242] The Act also provides that resource installations that become attached to the Australian seabed are deemed to be part of Australia for the purposes of the Customs Acts.[243] The Australian-Indonesian Timor Gap Zone of Cooperation Treaty includes certain clauses with respect to customs duties on mining equipment over or in relation to offshore oil rigs. According to the Treaty, goods and equipment brought into Area A[244] for use in offshore oil operations are not subject to the customs duties of the Contracting States.[245] However, goods and equipment which are permanently transferred from Area A to one of the Contracting States are subject to customs duties.[246]

An Argentinian law gives power to the Executive to introduce the full or partial application of customs provisions to the entry of products from overseas or from a free zone to all parts of the territorial sea or the exclusive economic zone of Argentina.[247]

According to the 1970 Continental Shelf Act in Fiji, any materials or parts used in the construction of an installation or device which is brought into the territorial sea or the continental shelf of Fiji from any part or place beyond the seas is deemed to have been imported into Fiji when the installation or device is constructed, erected or placed in, or above the seabed within such designated area in connection with the exploration of the seabed or subsoil or the exploitation of the natural resources thereof.[248] This legislation applies only to materials or parts used in the construction of an offshore installation. Therefore, it only applies to goods and equipment

which are brought into an oil installation on the continental shelf.

In France, customs officials may inspect installations and devices at any time.[249] They are also allowed to inspect the means of transport used for the exploration of the continental shelf or the exploitation of its natural resources within the safety zone.[250]

According to the 1977 Maritime Boundaries Act of Guyana the President may by order, make such provisions as he may deem necessary with respect to customs in relation to the continental shelf and its superjacent waters.[251]

Similarly, Indian legislation provides that the General Government may, by notification in the Official Gazette, make provisions with respect to customs matters in relation to the continental shelf and its superjacent waters.[252] There are similar provisions in the 1979 Territorial Waters and Maritime Zones Act of Pakistan.[253]

4.3.3.2 Fiscal The LOSC provides that the coastal State has jurisdiction with regard to fiscal laws and regulations over oil rigs.[254] Governmental financial maters, insurance and taxation are the most important examples of fiscal issues which relate to oil rigs. Again, similar to customs regulations, the coastal State has jurisdiction with regard to fiscal matters over oil platforms in its territorial sea and, by virtue of Article 6(2) of the LOSC, on the continental shelf and the EEZ. In cases when a non-coastal State establishes an installation on the continental shelf or the EEZ with the authorisation of the coastal State, the latter may have jurisdiction with respect to certain fiscal matters such as taxation. However, the applicable fiscal matters over oil installations erected on the continental shelf or the EEZ by foreign countries and with the permission of the coastal State, may be decided by bilateral agreement.

According to the LOSC, offshore installations in the International Seabed Area should be erected subject to the rules, regulations and procedures of the Authority. However, the provisions of the LOSC indicate that the Authority does not have competence with regards to fiscal issues such as taxation over oil rigs on the International Seabed Area. Article 183 of the LOSC exempts the Authority from all direct taxation.[255] This means that in the Area the Authority is not a competent body to regulate tax matters. Further, Article 171 of the LOSC which determines funds of the Authority does not refer to tax as a source for the funds of the Authority.

Certain countries have made provisions with regard to fiscal matters over offshore oil rigs on their continental shelf and EEZ. French legislation provides that for the purpose of the application of tax laws, products extracted from the continental shelf should be regarded as having been recovered in the territory of metropolitan France.[256]

4.3.3.3 Immigration There are a vast number of people working on oil rigs. Many of them are foreign nationals not from the coastal State. The LOSC gives jurisdiction over oil installations with regard to immigration to the coastal State on its continental shelf and the EEZ in order to control the movement of people for immigration purposes.[257] This means that the coastal State is entitled to make provisions with respect to the employment and movement of people over oil rigs on its continental shelf and EEZ. In cases when a foreign State, with the permission of the coastal State, establishes oil installations on the continental shelf and the EEZ, the laws and regulations of the coastal State with respect to immigration are applicable unless otherwise is agreed.

A number of countries have enacted provisions in relation to immigration and employment on oil rigs on their continental shelf and the EEZ. In Australia the Sea Installations (Miscellaneous Amendments) Act 1987 (Cth) has made a number of amendments to the Migration Act 1958 in order to control immigration and employment on oil rigs. According to Article 8 of the Migration Act 1958, for the purposes of the Migration Act, a resource installation that becomes attached to the Australian seabed is deemed to be a part of Australia.[258]

The 1991 Canadian Laws Offshore Application Act provides that persons other than Canadian citizens or permanent residents seeking work as employees in offshore oil and gas projects on the East Coast continental shelf, and any foreign workers hired to work aboard any marine installations or structures that are anchored or attached to the continental shelf or seabed in connection with the exploration for or exploitation of mineral resources, require employment authorisations in accordance with the Immigration Act.[259]

4.4 Conclusion

The LOSC provides certain rules regarding the right of States to construct oil rigs in different parts of the sea. It also provides rules with respect to jurisdiction over or in relation to oil rigs. However, many jurisdictional matters with regard to the construction and operation of offshore oil installations have only been dealt with by national legislation.

In international law the coastal State has comprehensive jurisdiction to build and control any offshore installations within its internal waters and territorial sea. However, the construction of oil installations must not hamper the innocent passage of foreign ships through the territorial sea.

On the continental shelf and EEZ the coastal State is entitled to construct and to authorise and regulate the construction, operation and use of oil rigs. The coastal State also has the right to establish safety zones around oil

installations. However, the coastal State is required to give due notice of the construction of oil rigs and must maintain permanent means for giving a warning of their presence. Furthermore, the establishment of oil rigs and the safety zones around them must not interfere with the freedom of navigation on the continental shelf and EEZ.

The establishment of oil rigs on the high seas beyond 200 nautical miles is subject to two legal regimes. In the cases where the continental shelf extends beyond 200 nautical miles only, the coastal State has the right to construct or to authorise the construction of oil rigs over the adjacent continental margin. In the Area, the seabed and ocean floor beyond the limits of national jurisdiction, the construction and removal of oil rigs is subject to the authorisations, rules and regulations of the International Seabed Authority. This Authority is the international body established through the LOSC in order to exercise overall responsibility for the control and organisation of the exploration and exploitation of the deep seabed.

In internal waters and the territorial sea, the criminal and civil law of the coastal State is applicable on board fixed oil rigs. However, there are different views and practice amongst States with respect to the applicable law on board mobile oil rigs, particularly drilling ships on the internal waters. If a State treats mobile oil rigs as ships then the approach of the coastal State with respect to foreign ships in its ports and internal waters may be applied with regard to drilling ships. In cases where a drilling ship is passing through the territorial sea, without being involved in exploration of the sea and exploitation of its natural resources, it may be subject to the same regulations as a foreign ship passing through the territorial sea. The coastal State may enforce its criminal law on board fixed oil rigs and mobile rigs owned by foreign States which are engaging in the exploration and exploitation of oil and gas.

By virtue of Article 60(2) of the LOSC the coastal State has the exclusive jurisdiction, including criminal law, over oil installations erected on its continental shelf and the EEZ. The coastal States' exclusive rights are extended to those oil rigs which are operated by States other than the coastal State on the continental shelf and the EEZ of the coastal State.

No State has jurisdiction on the high seas. Therefore in the absence of territorial jurisdiction the national State of the operator of oil rigs may exercise jurisdiction and control over its installations on the high seas. Similarly in the International Seabed Area the national State is authorised to exercise criminal jurisdiction over its nationals. The International Seabed Authority lacks a code of civil or criminal law or a judicial system to exercise effective jurisdiction over oil rigs on the International Seabed Area. However, the Authority is capable of adopting rules and regulations with respect to the administrative, procedural and financial issues of exploration and exploitation of the natural resources of the Seabed Area.

Civil jurisdiction over or in relation to oil rigs is a matter of private international law. The rules of international law are relevant where the damages and injuries result from a crime or breach of international law. Many countries have established provisions in relation to civil jurisdiction over or in connection with offshore oil rigs.

According to the LOSC the coastal State, on its continental shelf and the EEZ, has exclusive jurisdiction over oil rigs with regard to customs, fiscal, health, safety, and immigration laws and regulations. Many States have enacted certain legislative provisions with regard to customs, fiscal and immigration rules and regulations on their continental shelf and the EEZ. The jurisdiction of the coastal State over such matters on the continental shelf and the EEZ, is well defined in the LOSC. However, jurisdiction in relation to these matters in the Area remains unclear.

The increase in offshore oil production and the number of oil rigs, particularly in the high seas beyond the limits of national jurisdiction, will create more jurisdictional issues in future. The LOSC covers jurisdictional matters in relation to oil rigs erected in the territorial waters, on the continental shelf and in the EEZ in a reasonably efficient way. However on the high seas beyond the limits of national jurisdiction, the jurisdictional issues remain largely unresolved. Even the 1994 New York complimentary Agreement to the LOSC does not address the issue of jurisdiction over oil platforms in the Area. It is proposed that the issue of jurisdiction over oil rigs on the high seas where no State has jurisdiction, has to be addressed in the future amendments to the LOSC.

Notes

1. The term jurisdiction in international law is defined as 'comprehending the power to prescribe, the power to adjudicate, and the power to enforce'; I Shearer, 'Jurisdiction' in S Blay et al, *Public International Law*, An Australian Perspective, Oxford University Press Australia (1997) 161 at 162.
2. The additional zones are the exclusive fishing zone, the archipelagic water and the contiguous zone. See ED Brown, *The International Law of the Sea*, Dartmouth (1994) Vol I, pp 18-21.
3. See the Geneva Convention on the Territorial Sea and the Contiguous Zone, 1958 Art 5(1) and the 1982 LOSC, Art 8(1).
4. RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press, (1999) p 60; CJ Colombos, *the International Law of the Sea*, Longman (1967) p 175; R Jennings and A Watts, *Oppenheims' International Law*, Longman (1992) Vol I p 572.
5. RR Churchill and AV Lowe, note *supra*, p 60 and MS McDougal and WT Burke, *The Public Order of the Oceans*, Yale University Press (1962) pp 92-93.
6. R Jennings and A Watts, note *supra*, p 572.
7. RR Churchill and AV Lowe, note *supra*, p 60.
8. LOSC, Art 2(1).

9. *Anglo-Norwegian Fisheries Case* (1951) ICJ Reps 116, as discussed in International Law Association 'Artificial Islands and Offshore Installations' (1978) Report of the Fifty-Seventh Conference, held at Madrid, August 30th, 1976, to September 4, 1976 (hereinafter ILA Report) p 428.
10. Art 5(2) of the Territorial Sea and the Contiguous Zone provides that: 'Where the establishment of a straight baseline in accordance with the method set forth in Art 4 has the effect of enclosing as internal waters areas which previously had been considered as part of the territorial sea or of the high seas, a right of innocent passage as provided in Arts 14 to 23 shall exist in those waters'.
11. (1992) ICJ Reports 351, at p 593.
12. ILA Report note *supra*, p 399.
13. *Trail Smelter Arbitration (US v Canada)*, (1941) 3 RIAA 1905, 1965-1966.
14. *Trail Smelter Arbitration (US v Canada)*, (1941) 3 RIAA 1905, 1965-1966.
15. O Pawson, 'Implication of Floating Communities for International Law' (1989) 1 *Marine Policy Report* 101 at 108.
16. LOSC, Art 3.
17. LOSC, Art 2(1).
18. LOSC, Art 2(2).
19. O Pawson, note *supra*, at 108 and SE Honein, *the International Law Relating to Offshore Installations and Artificial Islands*, Lloyds' of London Press (1991) p 4.
20. UNCLOS III, Committee II, Informal Working Paper No 12, 20 August 1974, as cited and discussed in N Papadakis, *The International Legal Regimes of Artificial Islands*, Sijthoff (1977) p 52; O Pawson, *ibid* at 108 and SE Honein, note *supra*, p 4.
21. A/CONF 62/C.2/L.88 (1975). Paras 1-3, IV Off Rec 194 (Ecuador), as discussed in SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, a Commentary*, Martinus Nijhoff (1993) Vol II pp 70-71.
22. A/CONF 62/C.2/L.88 (1975). Paras 1-3, IV Off Rec 194 (Ecuador), as discussed in *ibid*.
23. Art 18 of the LOSC defines 'passage' as '... navigation through the territorial sea for the purpose of (a) traversing that sea without entering internal waters or calling at a roadstead or port facility outside internal waters; or
(b) proceeding to or from internal waters or a call at such roadstead or port facility... passage includes stopping and anchoring ...'
'Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State ...' See Art 14(4) of the LOSC.
24. Art 24 of the LOSC reads as follows: 1. The coastal State shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this Convention. In particular, in the application of this Convention or of any laws or regulations adopted in conformity with this Convention, the coastal State shall not:
(a) impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage; or
(b) discriminate in form or in fact against the ships of any State or against ships carrying cargoes to, from or on behalf of any State.
2. The Coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea.
25. O Pawson, note *supra*, at 108 and SE Honein, note *supra*, p 4.
26. O Pawson, *ibid*.

27. LOSC, Art 17.
28. LOSC, Art 24.
29. (1949) ICJ Reports 4.
30. *Ibid*.
31. *Ibid*.
32. The International Law Commission (ILC) in a commentary to Art 1 of the Convention on the Territorial Sea and the Contiguous Zone, stated: 'the rights of the coastal State over the territorial sea do not differ in nature from the rights of sovereignty which the State exercises over other parts of its territory'. 2 YILC (1965) p 265.
33. MW Mouton, *The Continental Shelf*, Martinus Nijhoff (1952).
34. See, IA Shearer, 'Problems of Jurisdiction and Law Enforcement Against Delinquent Vessels' (1986) 35 *ICLQ* 320 at 325-329.
35. Art 22 of the 1982 LOSC provides: 'The coastal state may, where necessary having regard to the safety of navigation, require foreign ships exercising the right of innocent passage through its territorial sea to use such sea lanes and traffic separation schemes as it may designate or prescribe for the regulation of the passage of ships'.
36. See Chapter 5 below.
37. For a study of passage in international straits see: DP O'Connell, *The International Law of The Sea*, Clarendon Press, (IA Shearer 1982) Vol I pp 299-337; RR Churchill and AV Lowe, note *supra*, pp 102-117; ED Brown, note *supra*, pp 81-96; IA Shearer, 'Navigation Issues in the Asian Pacific Region', in J Crawford and DR Rothwell, *The Law of the Sea in the Asian Pacific Region* (1995) at 199-223; CJ Colombos, note *supra*, pp 197-222; RR Baxter, *The Law of International Waterways*, Harvard University press, (1964); KL Koh, *Straits in International Navigation, Contemporary Issues*, Oceana Pub (1982); SC Truver, *The Strait of Gibraltar and the Mediterranean*, Sijthoff and Noordhoff (1980); JA Obieta, *The International Status of the Suez Canal*, Martinus Nijhoff, (1970); and RK Ramazani, *The Persian Gulf and the Strait of Hormuz*, Alphen aan den Rijn, (1979); See also WM Reisman, 'The Regime of Straits and National Security. An Appraisal of International Lawmaking' (1980) 74 *AJIL* 48; SJT Amin, 'The Regime of International Straits: Legal Implications for the Strait of Hormus' (1981) 12 *JMLC* 387; and DR Rothwell, 'International Straits and LOSC: An Australian Case Study (1992) 23 *JMLC* 461.
38. LOSC, Art 44.
39. LOSC, Art 37 of the LOSC.
40. *Trail Smelter Arbitration (USA v Canada)* (1941) 3 RIAA 1905.
41. UN Doc A/AC. 138/91, 11 July 1973.
42. IMCO is now the IMO (International Maritime Organisation).
43. AHA Soons, *Artificial Islands and Installations in International Law* (1974), Occasional Paper Series, Law of the Sea Institute, University of Rhode Island, Occasional Paper No 22 p 6.
44. *Ibid*.
45. LOSC, Art 57.
46. See LOSC, Art 55.
47. LOSC, Art 58(1).
48. RR Churchill and AV Lowe, note *supra*, p 160; For a study of the genesis and

evolution of the EEZ see DP O'Connell, note *supra*, pp 553-570; RB Krueger and MH Nordquist, *The Evolution of the 200 mile Exclusive Zone, State Practice in the Pacific Basin* (1980) pp 248-89 and JE Bailey 'The Exclusive Economic Zone: its Development and Future in International and Domestic Law' (1985) 45 *Louisiana Law Review* 1269; For a general study of the EEZ see: RW Smith, *Exclusive Economic Zone Claims: An Analysis and Primary Documents*, Martinus Nijhoff, (1986); FO Vicuna, *The Exclusive Economic Zone: Regime and Legal Nature under International Law*, Cambridge UP, (1989); K Mfodwo, BM Tsamenyi and SKN Blay, 'The Exclusive Economic Zone: State Practice in the African Region' (1989) 20 *ODIL* 445; L Juda, 'The Exclusive Economic Zone: Compatibility of National Claims and the UN Convention on the Law of the Sea' (1986) 16 *ODIL* 1; and DW Fischer, 'Hard Mineral Resource Development Policy in the US Exclusive Economic Zone: A Review of the Role of the Coastal State' (1988) 19 *ODIL* 101.

49. 1958 Geneva Convention on the Continental Shelf, Art 5.
50. LOSC, Art 56(1)(a).
51. LOSC, Art 56(b)(i).
52. United Nations, Multilateral Treaties Deposited with the Secretary-General, Status as at 31 December 1996, pp 825, 826 and 840.
53. According to Art 60(4) of the LOSC: 'The coastal State may, where necessary, establish reasonable safety zones around such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of the navigation and of the artificial islands, installations and structures'.
54. Chapter 5 below.
55. LOSC, Art 60(3).
56. LOSC, Art 60(7).
57. Chapter 8 below.
58. Australia: Sea Installations Act (Cth) 1987; Barbados: Marine Boundaries and Jurisdiction Act, 1978-3, 25 February 1978, Part II, Arts 5(2)(ii) and 6(1)(d); Burma: Territorial Sea and Maritime Zones Law, 1977, Pyithu Hluttaw Law No 3 of 9 April 1977, Chapter V Art 18(b); Cuba: Legislative Decree No 2 of 24 February 1977 Concerning the Establishment of an Economic Zone, Art 2 (II); Djibouti: Law No 52/AN/78 Concerning the Territorial Sea, the Contiguous Zone, the Exclusive Economic Zone, the Maritime Frontiers and Fishing, Section III, Art 13(b); Dominica: Territorial Sea, Contiguous Zone, Exclusive Economic and Fishery Zones Act, 1981, Act No 26 of 25 August 1981, Art 8(b)(i); Dominican Republic, Act No 186 of 13 September 1967 on the Territorial Sea, Contiguous Zone, Exclusive Economic Zone and Continental Shelf as amended by Act No 573 of 1 April 1977, Art 5(1); Equatorial Guinea: Act No 15/1984 of 12 November 1984 on the Territorial Sea and Exclusive Economic Zone, Part II, Art 13 (b); Grenada: Marine Boundaries Act, 1978, Act No 20 of 1 November 1978, Part II, Arts 5(ii) and 6(1)(d); Guatemala: Legislative Decrees No 20-76 of 9 June 1976 Concerning the Breach of the Territorial Sea and the Establishment of an Exclusive Economic Zone, Art 3(b); Guyana: Marine Boundaries Act, 1977, Act No 10 of 30 June 1977, Part III, Art 16(b); Honduras: Decree No 921 of 13 June 1980 on the Utilization of Marine Natural Resources, Art 1(b); Iceland: Law No 41 of 1 June 1979 Concerning the Territorial Sea, the Economic Zone and the Continental Shelf, Art 4(b)(i); India: The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, Act No 80 of 28 May 1976, Art 1(4)(b); Indonesia: Act No 5 of 18 October 1983 on the Indonesian Exclusive Economic Zone, Chapter III, Art 4(1)(b)(i); Iran: Act on the Marine Areas of the Islamic Republic of Iran in the Persian Gulf and the Oman Se, 1993, Art 14(b)(i) Kenya: Presidential Proclamation of 28 February 1979, Schedule 1(1)(c)(iii); Mauritania: Law No 78.043 Establishing the Code of the Merchant Marine and Maritime Fisheries of 28 February 1978, Art 185(2)(a); Mexico: Decree of 26 January 1976, Adding a new Paragraph 8 to Art 27 of the Constitution of the United Mexican States, to provide for an Exclusive Economic Zone beyond the Territorial Sea, Art 46(II)(1); Morocco: Act No 1-81 of 18 December 1980, Promulgated by Dahir No 1-81-179 of 8 April 1981, Establishing a 200-Nautical-Mile Exclusive Economic Zone off the Moroccan Coasts, Art 4(1); Nigeria: Exclusive Economic Zone Decree No 28 of 5 October 1978, Art 3(1)(a) and 3(1)(b); Norway: Act No 91 of 17 December 1976 Relating to the Economic Zone of Norway, Paragraph 7(c); Pakistan: Territorial Waters and Maritime Zones Act 1976, Art 6(b); Seychelles: Maritime Zones Act 1977, Act No 15 of 23 May 1977, Art 7(1)(b); Solomon Islands: Delimitation of Marine Waters Act 1978, No 32 of 1978, Art 11(c); Sri Lanka: Maritime Zone Law No 22 of 1 September 1976, Art 5(3)(c); Surinam: Law Concerning the Extension of the Territorial Sea and the Establishment of a Contiguous Economic Zone of 11 June 1978, Art 4(2)(A); United Arab Emirates: Declaration of the Ministry of Foreign Affairs Concerning the Exclusive Economic Zone and its Delimitation of 25 July 1980, Art 4; United States of America, Proclamation 5030, 10 March 1983 by the President of the United States of America; Vanuatu: Maritime Zones Act No 23 of 1981, Part V, Art 10(b) and Part VI, Art 11(d); Venezuela: Act Establishing an Exclusive Economic Zone along the Coasts of the Mainland and Islands of 26 July 1978, Art 3(1)(b)(i) and Art 8; Vietnam: Statement on the Territorial Sea, the Contiguous Zone, the Exclusive Economic Zone and the Continental Shelf of 12 May 1977, Section 3.
59. RR Churchill and AV Lowe, note *supra*, p 144.
60. *Ibid*.
61. With the exception of living organisms belonging to sedentary species which are immobile on or under the seabed. See LOSC, Art 77(4).
62. LOSC, Art 56(a).
63. 'Proclamation Concerning United States Jurisdiction Over Natural Resources in Coastal Areas and High Seas' (1945) 13 *Department of State Bulletin* 484-485.
64. For a study of the legal status of the continental shelf see: ED Brown, *Seabed Energy and Mineral Resources and the Law of the Sea*, Vol 1: The Areas Within National Jurisdiction, Graham and Trotman, (1984); ZJ Slouka, *International Custom and the Continental Shelf*, Martinus Nijhoff (1968); D Pharand and Umberto. The Continental Shelf and the Exclusive Economic Zone, Martinus Nijhoff (1993) Chapter 4; DN Hutchinson, 'The Seaward Limit to Continental Shelf Jurisdiction in Customary International Law' (1985)56 *BYIL* 133; DN Hutchinson, 'The Concept of Natural Prolongation in the Jurisprudence Concerning Delimitation of Continental Shelf Area' (1984) 55 *BYIL* 133; and SH Amin, 'Law of Continental Shelf Delimitation: the Gulf Example' (1980) 27 *Netherlands International Law Review* 335.
65. LOSC, Art 77(1).
66. The natural resources subject to the coastal State rights are: '... the mineral and other non-living resources of the seabed and subsoil together with living organisms

belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil' (LOSC, 77(4)).

67. LOSC, Art 81.
68. LOSC, Art 77(2).
69. LOSC, Art 77(3).
70. LOSC, Art 80, 60(b), and 56(a).
71. See LOSC, Arts 77(1)(4). It should be mentioned that under the 1958 Geneva Convention on the Continental Shelf, the coastal States' sovereign rights on the continental shelf were limited to the exploration and exploitation of its natural resources. According to Art 2(1) of that Convention: 'the coastal State exercises over the continental shelf sovereign rights for the purpose of exploring and exploiting its natural resources'. Further, Art 5(2) of the Convention provided that '... the coastal State is entitled to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and the exploitation of its natural resources ...'
72. LOSC, Art 60(b) and 81.
73. LOSC, 60(1) (c).
74. LOSC, Arts 56(1)(a) and 60(1)(b).
75. Art 60(1)(b).
76. SE Honein, note *supra*, p 11.
77. See MS McDougal and WT Burke, note *supra*, p 719.
78. Draft Art for Inclusion in a Convention on the Law of the Sea, Working paper submitted by Ecuador, Panama and Peru (1973), UN Doc A/ac. 138/sc.II/L.27, 13 July 1973.
79. *Ibid* Art 1.
80. *Ibid* Art 12.
81. Working paper submitted by Belgium, UN Doc A/AC.138/91, 11 July 1973.
82. In the Belgian proposal, a footnote was inserted here which states:
'It would seem advisable not to specify at present the body which would be competent to entertain such an appeal. It could be the tribunal of the international machinery, if that was thought appropriate, or there could be the triple possibility of recourse to IMCO in respect of complaints affecting navigation, to the regional fisheries organization in respect to those concerning fishing, or to the international authority for marine environment pollution, if one is established'.
83. For an interesting and more detailed comment on this Belgian proposal, see AHA Soons, note *supra*, pp 16-17.
84. For a study of military activities and erection of military installations in the EEZ by non-coastal States see, S Malunoudi, 'Foreign Military Activities in the Swedish Economic Zone' (1996) 11 *IJMCL* 365, at 376-380; see also B Kwiatkowska, 'Military uses in the EEZ, a reply' (1987) 11 *Marine Policy* 249, AV Lowe, 'Some Legal Problems Arising from the Use of the Seas for Military Purposes' (1986) 10 *Marine Policy* 171.
85. B Oxman, 'The Regime of Warships Under the United Nations Convention on the Law of the Sea' (1984) 24 *VJIL* 809 at 844.
86. Australia: the Maritime Legislation Amendment Act 1994 (Cth); Sea Installation Act 1987 (Cth) Bangladesh: Territorial Waters and Maritime Zones Act 1974, Act No XXVI of 1974, Art 7(4); Belgium: Continental Shelf Act of 13 June 1969, Arts 5-7 and Royal Decree on Measures to Protect Navigation, Sea Fishing, the Environment and Other Essential Interests in the Exploration and Exploitation of the Mineral and Other Non-Living Resources of the Seabed and Subsoil in the territorial Sea and on the Continental Shelf of 16 May 1974 as Amended by the Royal Decree of 22 April 1983, Arts 2-5; Burma: Territorial Sea and Maritime Zones Law, 1977, Pyithu Hluttaw Law No 3 of 9 April 1977, Chapter IV, Art 14(b); Egypt: Presidential Decision No 1051 of 3 September 1958 Concerning the Continental Shelf, Paragraph n5; Finland: Law No 149 of 5 March 1965 Concerning the Continental Shelf, Art 5; Guatemala: Decree of the Congress No 20-76 of 1 July 1976, Art 3(b); Guyana: Maritime Boundaries Act, 1977, Act No 10 of 30 June 1977, Part II, 10(b); India: Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, Act No 80 of 25 August 1976, Art 6(3)(b); Iran: Act on the Marine Areas of the Islamic Republic of Iran in the Persian Gulf and the Oman Sea, 1993, Art 15; Malaysia: Continental Shelf Act 1966, As amended by Act No 83 of 1972, Arts 6(1) and 21; Mauritius: Maritime Zones Act 1977, Act No 13 of 3 June 1977, Art 7(b); Pakistan: Territorial Waters and Maritime Zones Act 1976 of 22 December 1976, Art 5(2)(c); Poland: Act No 37 of 17 December 1977 Concerning the Continental Shelf of the Polish Peoples' Republic, Art 6; Portugal: Decree-Law No 49-369 of 11 November 1969, Art 5(3); Saint Lucia: Maritime Areas Act, Act No 6 of 18 July 1984, Arts 10(b)(i) and 14(1)(iii); Seychelles: Maritime Zones Act 1977, Act No 15 of 1 August 1977, Art 7(1)(b); Sri Lanka: Maritime Zones Law No 22 of 1 September 1976, Art 6(3)(c); Sudan: Territorial Waters and Continental Shelf Act, Act No 106 of 28 November 1970, Art 11(1); Vanuatu: Maritime Zones Act No 23 of 1981, Art 10(b); Venezuela: Act of 27 July 1956 Concerning the Territorial Sea, Continental Shelf, Fishery Protection and Airspace, Art 5.
87. [1953]43 USCS 1332(a).
88. [1953]43 USCS 1332(a)(1).
89. LOSC, Art 78(2).
90. LOSC, Art 80 and 60(3).
91. LOSC, Art 80 and 60(7).
92. See Chapters 5 and 8 below.
93. LOSC, Art 80 and 60(8).
94. Art 1.
95. LOSC, Art 86.
96. BH Oxman, 'High Seas and the International Seabed Area' (1989) 10 *MJIL* 526, at 531.
97. Subject to Part VI of the LOSC.
98. Subject to Part VI.
99. Subject to the conditions laid down in Section 2.
100. LOSC, Art 87.
101. This study deals only with the issue of freedom to construct artificial islands and oil rigs, subject to the LOSCs' provisions, on the high sea. For a discussion as to whether or not seabed mining is a freedom of high seas see, J Van Dyke and C Yuen, '"*Common Heritage*" *v* "*Freedom of the High Seas*": Which Governs the Seabed?" (1982) 19 *San Diego LR* 493.
102. Art 2 of the 1958 Geneva Convention on the High Seas made reference to only the

freedom of navigation, freedom of fishing, freedom to lay submarine cables and pipelines and freedom to fly over the high seas. The Convention did not refer to the establishment of artificial islands and installations.

103. YBILC (1956) Vol 2, p 278, commentary on Art 27.
104. LOSC, Art 77.
105. LOSC, Art 60.
106. SE Honein, note *supra*, p 17.
107. LOSC, Art 116.
108. LOSC, Art 87 (f).
109. LOSC, Art 112(1).
110. LOSC, Art 117.
111. See Chapter 6 below.
112. LOSC, Art 89.
113. SE Honein, note *supra*, p 18.
114. "In this Art, the expression 'fisheries conducted by means of equipment embedded in the sea floor of the sea' means those fisheries using gear with supporting members embedded in the sea floor, constructed on a site and left there to operate permanently or, if removed, restored each season on the same site'. (The 1958 Geneva Convention on the Fishing and Conservation of the Living Resources of the High Seas Art 13(2)).
115. The 1958 Geneva convention on the Fishing and Conservation of the Living Resources of the high seas Art 13(1).
116. Working Paper Concerning Artificial Islands and Installations submitted by Belgium, Doc A/AC.139/91, 11 July 1973.
117. AHA Soons, note *supra*, p 30.
118. DW Bowett, *the Legal Regime of Islands in International Law*, Oceana Publication (1979) p 125.
119. *Ibid*.
120. 'Area' means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction. (LOSC, Art 1(1)).
121. In 1970 the United Nations General Assembly adopted the Declaration of Principles Governing the Seabed and the Ocean Floor and the Subsoil Thereof Beyond the Limits of National Jurisdiction as General Assembly Resolution 2749. The main principles of the Declaration are as follows:
    (1) The seabed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the Area) as well as the resources of the Area, are the common heritage of mankind.
    (2) The Area shall not be subject to appropriation by any means by States or persons, natural or juridical, and no State shall claim or exercise sovereignty or sovereign rights over any part thereof.
    (3) No State or person, natural or juridical, shall claim, exercise or acquire rights with respect to the Area or its resources incompatible with the international regime to be established and the principle of this Declaration.
    (4) All activities regarding the exploration and exploitation of the resources of the Area and other related activities shall be governed by the international regime to be established.
    (5) The area shall be open to use exclusively for peaceful purposes by all States whether coastal or land-locked, without discrimination, in accordance with the international regime to be established.

The Declaration of Principles began a continuous effort to set out an international regime for the Area under the Third United Nations Conference on the Law of Sea. During the proceedings of the Seabed Committee, from 1973 onwards, a divergence arose between the views of industrialised and developing States. The latter sought an international seabed authority to control and regulate the resources of the seabed area as the common heritage of mankind. Whereas, the developed States, proposed that the authority should only be a registry of national claims to seabed mining sites. However, the result was part XI of the LOSC: RR Churchill and AV Low, note *supra*, pp 226-228.

122. LOSC, Art 136.
123. LOSC, Art 137(1)(3).
124. LOSC, Art 134(2).
125. LOSC, Art 140(1).
126. LOSC, Arts 156 and 157(1).
127. LOSC, Art 153(5).
128. For further study on the different legal aspects of the International Seabed Area and its resources see: ED Brown, *Seabed Energy and Mineral Resources and the Law of the Sea*, Vol 2, The Area Beyond the Limit of National Jurisdiction and Vol 3 Selected Documents, Tables and Bibliography, Graham and Trotman (1986); JCF Wang, *Handbook on Ocean Politics and Law*, Greenwood Press (1992) pp 205-290; S Mahmoudi, *The Law of Deep Seabed mining*, Almqvist and Wiksell International (1987); W Hauser, *The Legal Regime for Deep Seabed Mining under the Law of the Sea Convention*, Kluwer (translated by FB Dielmann, 1983); R Ogley, *Internationalising the Seabed*, Gower (1984); RL Brooke, 'The current status of Deep Seabed Mining' (1984) 24 *VJIL* 359; CJ Joyner, 'Legal implication of the common heritage of mankind' (1986) 35 *ICLQ* 190; BE Heim, 'Exploring the Frontiers for Mineral Resources: A Comparison of International Law Regarding the Deep Seabed, Outer Space, and Antarctica' (1990) 23 *Vanderbilt Journal of Transnational Law* 819; WC Brewer, 'The Prospect for Deep Seabed Mining in a Divided World' (1984) 14 *ODIL* 363; DL Larson, 'Deep Seabed Mining: A Definition of the Problem'(1986) 16 *ODIL* 271; and SH Lay, 'An Analysis of the Deep Seabed Mining Provisions of the Law of the Sea Convention' (1985) 10 *University of Dayton Law Review* 319.
129. General Assembly Resolution A/48/263; for the text of the Agreement see: 33 ILM (1994) 1309.
130. For an analysis of the main provisions of this Agreement see, ED Brown, 'The 1994 Agreement on the Implementation of Part XI of the UN Convention on the Law of the Sea: breakthrough to universality?' (1995) 19 *Marine Policy* 5.
131. LOSC, Art 147 (2) (a).
132. LOSC, Art 1(1)(3).
133. LOSC, Art 133.
134. LOSC, Art 147 (2) (a).
135. LOSC, Art 147 (2) (b).
136. LOSC, Art 147 (2)(e).
137. Chapters 5-8.
138. LOSC, Art 147(3).
139. UN Doc A/A.138/91, 11 July 1973.

140. LOSC, Art 60(2).
141. LOSC, Arts 8-16.
142. (1986) ICJ Reports.
143. (1986) ICJ Reports at 111.
144. RR Churchill and AV Low, note *supra*, pp 65-66; see also, F Francioni, 'Criminal Jurisdiction over Foreign Merchant Vessels in Territorial Waters: a New Analysis' (1975) 1 Italian Yearbook of International Law 27.
145. RR Churchill and AV Low, note *supra*, p 65.
146. *Ibid*, pp 66-67.
147. LOSC, Art 2(2).
148. LOSC, Arts 17, 18 and 19.
149. In this section the word 'jurisdiction' refers to the exclusive exercise of control and judicial functions.
150. For an exhaustive study and analysis of the historical background and an analysis of different doctrines in relation to criminal jurisdiction over ships in territorial waters, see generally: PC Jessup, *The Law of Territorial Waters and Maritime Jurisdiction*, Jennings Co (1927) Chapter 3 and F Francioni, note *supra*.
151. IA Shearer, note *supra*, at 327.
152. LOSC, Art 2(1).
153. LOSC, Art 21(b).
154. LOSC, Art 21(c).
155. LOSC, Art 21(f).
156. LOSC, Art 21(h).
157. See generally IA Shearer, note *supra*; DP O'Connell, note *supra*, pp1035-1061 and AV Lowe, 'The Development of the Concept of the Contiguous Zone' (1981) 52 *BYIL* 109.
158. R Jennings and A Watts, note *supra*, pp 458-466.
159. I Shearer, note 1 *supra*, p170.
160. For the meaning and discussion of these theories see DP O'Connell, note *supra*, pp 792-796.
161. *The Le Louis* [1817] 2 Dods.210, 243, per Lord Stowell, Sir W Scott.
162. (1969) ICJ Reports 22.
163. Art 2.
164. LOSC, Art 77(1).
165. DP O'Connell, note *supra*, Vol I p 477.
166. *Ibid*.
167. See LOSC, Art 77(4).
168. (1969) ICJ Reports, 29.
169. If Art 77 of the LOSC is read in conjunction with arts 56, 60 and 80 it can be understood that the LOSC extends the sovereign rights and jurisdiction of the coastal State to all artificial islands and installation on the continental shelf and the EEZ.
170. For a discussion of pirate broadcasting problems from ships and offshore structures see NM Hunning, 'Pirate Broadcasting in European Waters' (1965) 14 *ICLQ* 410 and HF Van Panhuys and MJ Van Emde Boas, 'Legal Aspects of Pirate Broadcasting' (1966) 60 *AJIL* 303.
171. DP O'Connell, note *supra*, p 816.

172. *Ibid*.
173. *Ibid*.
174. *Ibid*.
175. *Ibid*.
176. The Convention defines 'ship' as 'a vessel of any type whatsoever not permanently attached to the seabed, including dynamically supported craft, submersibles, or any other floating craft'. (Art 1)
177. Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, 1988, Art 3, 27 ILM (1988) 672.
178. *Ibid*.
179. *Ibid*.
180. The Protocol for the Suppression Acts against the Safety of Fixed Platforms located on the Continental Shelf, 27 ILM (1988) 685.
181. Art 1(3) of the Protocol for the Suppression Acts against the Safety of Fixed Platforms located on the Continental Shelf defines 'fixed platform' as 'an artificial island, installation or structure permanently attached to the seabed for the purpose of exploration or exploitation of resources or for other economic purposes'.
182. Crime at Sea Act (Cth) 1979, No 17 1979, Section 9.
183. Crime at Sea Act (Cth) 1979, No 17 1979, Section 10.
184. RD Lumb, 'Australian Coastal Jurisdiction' in KW Ryan, *International Law in Australia* (2 1984) 370 at 386. See also C Saunders, 'Maritime Crime' (1979) 12 *Melbourne ULR* 158.
185. The Petroleum (Submerged Lands), 1967, No 118 1967, Art 119(1).
186. The Petroleum (Submerged Lands), 1967, No 118 1967, Art 119(3).
187. The Zone of Cooperation is divided into three separate areas which are Areas A, B and C. Area A, the largest region, is in the middle. Area B is on the Australian side and Area C is closer to the East Timor. Areas B and C are under the control of Australia and Indonesia respectively. See GJ Moloney, 'Australia-Indonesian Timor Gap Zone of Cooperation Treaty: A New Offshore Petroleum Regime' (1990) 8 *JENRL* 128 at 129-131; for a further study of the Timor Gap Treaty see, A Bergin 'The Australian-Indonesian Timor gap Maritime Boundary Agreement' (1990) 5 *IJMCL* 383; S Kaye, 'The Timor Gap Treaty: Creative Solutions and International Conflict' (1994) 16 *SLR* 72; P Brazil, 'The Timor Gap Treaty in Future Transition' (2000) 19 *AMPLJ* 187.
188. Treaty between Australia and the Republic of Indonesia on the Zone of Cooperation in an Area between the Indonesian Province of East Timor and Northern Australia, signed December 11, 1989, Art 27(1).
189. *Ibid* Art 27(2)(a).
190. Continental Shelf Act of 13 June 1969, Art 7.
191. Continental Shelf Act of 13 June 1969, Art 8.
192. Continental Shelf Law, Law No 8 of 5 April 1974, Section 4(1)(b). Section 4(1)(a) of the same Act further provides: 'any act or omission which takes place on, under or above, the waters within five hundred metres of any installation or device (whether permanent or temporary) constructed, placed or used in, on or above, the continental shelf shall be deemed to have taken place in the republic'.
193. Continental Shelf Act No 9 of 30 December 1970, Section 4(3)(a)(i) and 4(3)(a) (iii).
194. Continental Shelf Act No 9 of 30 December 1970, Section 4(3)(b)(i).

195. Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to Exploitation of its Natural Resources, Art 35.
196. Continental Shelf Act No 14 of 11 June 1968, Section 3.
197. Continental Shelf Act 1966, Act No 57 of 28 July 1966, as amended by Act No 83 of 1972, Art 5(1)(a).
198. Continental Shelf Act 1966, Act No 57 of 28 July 1966, as amended by Act No 83 of 1972. Art 5(1)(b).
199. Continental Shelf Act No XXXV of 22 July 1966, Section 6(1)(a) and 6(1)(b).
200. Act No 37 of 17 December 1977 Concerning the Continental Shelf of the Polish Peoples' Republic, Section 6(2).
201. Continental Shelf Act 1964, 15 April 1964, Section 3.
202. Continental Shelf Act 1964, 15 April 1964, Section 11.
203. According to Section 1(7) of the Continental Shelf Act , Her Majesty may from time to time by Order in Council designate any area within which the rights mentioned in the Act are exercisable and such area shall be referred to as a 'designated area'.
204. The Continental Shelf Act, 15 April 1964, Section 3(2).
205. The Continental Shelf Act, 15 April 1964, Section 11(1).
206. The Continental Shelf Act, 15 April 1964, Section 11(3).
207. The Continental Shelf Act, 15 April 1964, Section 2(1)(2).
208. The Outer Continental Shelf Lands Act, 7 August 1953, Para 1333 (a)(1) (1976 and Supp III 1979).
209. LOSC, Arts 60 and 80.
210. M McDougal and WT Burke, note *supra*, p 46.
211. See, WE Hall, *A Treatise on International Law*, Oxford University Press (by AP Higgins 1924) pp 300-301.
212. DP O'Connell, note *supra*, Vol 2 p 935.
213. The International Law Commission stated that: 'One of the essential adjuncts to the principle of the freedom of the seas is that a ship must fly the flag of a single State and it is subject to the jurisdiction of that State' (Report of the ILC to the General Assembly, YILC 1956, Vol II, p 253, at p 279).
214. *France v Turkey* [1927] PCIJ, Ser A No10.
215. DP O'Connell, note *supra*, Vol 2 p935.
216. *France v Turkey* [1927] PCIJ, Ser A No10 at 18.
217. For a study of jurisdiction under international law, see R Jennings and A Watts, note *supra*, pp 456-488; DP O'Connell, *International Law*, Steven and Sons (1970) Vol 2 pp 599-794 and TW Fulton, *The Sovereignty of the Sea*, K Reprint Co, (1976).
218. In this Chapter, Section 4.2.6 above.
219. LOSC, Art 28.
220. LOSC, Art 2.
221. 33 USC 901 et seq (1976).
222. 43 USC S 1331 et seq (1970).
223. 43 USC S1333 (2) (2).
224. Royal Decree of December 8 1972, Section 53.
225. The Health and Safety at Work Act 1974, reprinted in Halsburys' Statutes of England, 1974, p 1083.
226. The Health and Safety at Work Act of 1974, para 4(1).

227. Petroleum (Australia-Indonesia Zone of Cooperation) Act 1990 (Cth), Art 10(1)(b).
228. Continental Shelf Act No XXXV of 22 July 1966, Section 6(2).
229. DP O'Connell, note *supra*, Vol II p 874.
230. See Chapter 3 above.
231. Both were signed in Brussels on May 10, 1952.
232. See Chapter 3 above.
233. The Convention was agreed to in London on October 20, 1972, its Regulations came into effect in 1977.
234. Rule 3.
235. See chapter 3 above discussion on the definition of 'ships'.
236. LOSC, Art 2(1).
237. LOSC, Art 6(2).
238. LOSC, Art 162 (2) (0) (1).
239. LOSC, Art 160 (2) (f) (ii).
240. LOSC, Annex III, Art 17 (1).
241. See Chapter 3 above.
242. Sea Installations (Miscellaneous Amendments) Act 1987, No 104 of 1987, Section 5B(1).
243. Sea Installations (Miscellaneous Amendments) Act 1987, No 104 of 1987, Section 5C(1).
244. See this Chapter, Section 4.3.1.4.
245. Art 23(5).
246. Art 23(5)(c).
247. Act No 23.968 of 14 August 1991, Art 588.
248. Continental Shelf Act No 9 of 30 December 1970, Section 5.
249. Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to the Exploitation of its Natural Resources, Art 17.
250. *Ibid.*
251. Maritime Boundaries Act, 1977, Act No 10 of 30 June 1977, Section 12(b)(iv).
252. Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976, Act No 80 of 25 August 1976, Section 5(b)(iv).
253. Territorial Waters and Maritime Zones Act 1976 of 22 December 1976, Section 4(b)(iv).
254. LOSC, Art 60(2).
255. LOSC, Art 183(1).
256. Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to the Exploitation of its Natural Resources, Art 15.
257. LOSC, 60(2).
258. Art 8(1).
259. DS MacDougall, 'Immigration Issues Relating to Offshore Work' (2001) World Reports, Vol IX, No 2, September 1997, (viewed February 2001) at: http://www.hg.org/1461.html.

5 Protection of Offshore Oil Rigs

5.1 Introduction

Ships and other sea-going structures may collide with offshore oil rigs leading to loss of life, sea pollution and economic damage. For example, in the period from 1973 to July 1995 a total of 463 incidents of vessels colliding with offshore oil installations was recorded on the UK continental shelf.[1] Offshore oil installations also may be damaged by the acts of other users of the sea. They further may be subject to military[2] and/or terrorist attack.[3] International law provides certain rules and regulations for the protection of offshore oil rigs and for the prevention of collisions at sea.

The LOSC allows the coastal State to adopt laws and regulations in relation to innocent passage through the territorial sea in respect of the protection of offshore installations.[4] The coastal State is also allowed to establish safety zones around offshore oil rigs and other installations on the continental shelf and in the EEZ to ensure the safety of both navigation and offshore installations.[5]

The 1988 Rome Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf[6] requires that the State parties provide appropriate penalties for any unlawful act against offshore installations.

The International Maritime Organisation (IMO) has adopted certain regulations to ensure the safety of oil rigs and to prevent the infringement of safety zones around offshore installations or structures.[7]

This chapter will examine and analyse international law provisions in relation to the protection of offshore oil rigs. First the rights of the coastal States to regulate innocent passage in order to protect its offshore installations will be discussed. Then the issue of safety zones around oil rigs, in accordance with the LOSC, will be examined. The 1988 Protocol for Prevention and Suppression of Terrorism Against Fixed Platforms on the Continental Shelf and the IMO Resolutions in relation to the safety and protection of offshore oil rigs is discussed later. Finally, State practice relating to the protection of offshore oil rigs will be dealt with. The chapter will conclude with proposition of a preferred approach for consideration in relation to the improvement of safety for offshore oil rigs in both national laws and international treaties.

5.2 Laws and Regulations of the Coastal State in the Territorial Sea

In the territorial sea, the coastal State may enact laws and regulations, including criminal sanctions, to protect its oil facilities and structures. The sovereignty of a coastal State over its land territory extends to its territorial sea.[8] However, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.[9] Therefore, collisions between ships and oil rigs may occur.

The law of the sea contains certain provisions which give power to the coastal State to regulate passage through the territorial sea in order to protect its oil rigs. According to Article 19 of the LOSC, if the passage of a foreign ship engages in 'any act aimed at interfering with any systems of communications or any other facilities or installations of the coastal State' that passage is considered to be prejudicial to the peace, good order or security of the coastal State.[10] Therefore, such passage is not considered innocent.[11] Article 21(1)(b) complements Article 19(2)(k). Article 21(1)(b) provides that the coastal State may adopt laws and regulations, relating to innocent passage through the territorial sea, in respect of the protection of installations. The term 'installations' includes artificial islands, oil rigs and other installations.[12] The meaning of 'interfering with installations' in Article 19(2)(k) is not clear. It does not define what kind of interference with offshore installations would be considered to be prejudicial to the peace, good order or security of the coastal State. Is even a minor inconvenience prejudicial to the security of the coastal State? For example, is it prejudicial to the good order of a coastal State if the passage of a foreign ship through the territorial sea compels oil tankers and drilling ships to change their routes when they are moving towards or from a fixed offshore oil installation? Article 19(2) states that a passage is not innocent if it engages in acts which interfere with offshore installations. This Article is silent about the role of the coastal State in defining the kind of interference with offshore installations. However, Paragraph 1, Article 19 provides that innocent passage, so long as it is not prejudicial to the peace, good order or security of the coastal State, shall take place in conformity with the LOSC and with other rules of international law. Article 21 gives the coastal State the right to adopt laws and regulations to protect its oil installations.[13] One may understand from the provisions of Article 21 that the coastal State has the right to verify the innocent character of the passage in order to protect its installations. However, Article 21, similar to Article 19, emphasises that the adoption of laws and regulations by the coastal State should be done in conformity with the provisions of the LOSC and other rules of international law.[14] To understand the power of a coastal State in relation to the adoption of laws and regulations relating to innocent passage through the territorial sea in order to protect oil installations, it is necessary to look at the meaning

of innocent passage. It is not intended here to go into a detailed discussion of innocent passage in the territorial sea.[15] However, the meaning of the term 'innocent passage' may be relevant from the point of view of those vessels which are engaged in any acts which interfere with installations, and therefore are considered to be prejudicial to the peace, good order or security of the coastal State. In 1974 at the second session of UNCLOS III, the United Kingdom proposed a set of draft articles on the territorial sea introducing a list of activities by a foreign ship which would render passage not innocent.[16] Paragraph 2 of the draft articles read:

> Passage of a foreign ship shall not be considered prejudicial to the peace, good order or security of the coastal State unless, in the territorial sea, it engages in any threat or use of force in violation of the Charter of the United Nations against the territorial integrity or political independence of the coastal State, or without authorization from the coastal State or justification under international law [engages] in any of the following activities ...

The list of activities which followed included any act aimed at interfering with any facilities or installations of the coastal State.[17] The United Kingdom proposal, similar to an early draft by the delegate of Fiji and a number of proposals by delegations of other countries, included a clause emphasising the 'use of force against the coastal State' as the main threat against the security of the coastal State. This clause was maintained in the final draft as a sub-paragraph of Section 2 of Article 19. Paragraphs b,c,d,e and f of Section 2 of Article 19 introduce a list of activities which are related to the threat or use of force against the security of the coastal State.[18] The rest of the provisions of Article 19 are concerned with the economic interests of the coastal State,[19] preservation of the marine environment[20] and activities which do not have a direct bearing on passage.[21] Interference with installations of the coastal State is of an economic nature, but its scope is far from clear.

Considering the provisions of Article 19, concerned with the security of the coastal State and the economic interests of the coastal State, it can be said that minor interference with the operation of oil installations should not be considered as prejudicial to the peace, good order or security of the coastal State. In almost all other provisions covered by Article 19 with respect to, for example, the economic interests of the coastal State, the Convention places emphasis on the actual involvement of foreign ships in certain activities which could be considered as actions against the security and good order of the coastal State. Therefore, 'any fishing activities' are considered to be prejudicial to the peace, good order or security of the coastal State and not 'any interference with fishing activities' of the coastal State. Innocent passage may cause minor interference with many activities of the coastal State such as fishing and the carrying out of research and military practice.

This means that by assuming that a minor inconvenience to the interests of the coastal state is prejudicial to the peace and good order of the coastal State, innocent passage in the territorial sea would be ineffective. Therefore, by looking at all the provisions of Article 19 of the LOSC it can be understood that a minor inconvenience to an offshore installation in the territorial sea is not prejudicial to the peace and good order of the coastal State. This means that the coastal State cannot bar innocent passage by reason of a minor inconvenience. However, the coastal State, by virtue of its sovereignty and the provisions of Article 21(1)(b) of the LOSC, may reasonably force foreign ships to divert their course or to follow certain instructions which may prolong their passage, in order to protect its oil installations. International law only demands that proper passage by foreign ships is ensured.

Another question with respect to interference of passage of foreign ships with installations of the coastal States in the territorial sea (Article 19(k) of the LOSC) is whether the interference in question must be deliberate or not. In other word, does an unintentional interference with the installations of the coastal State make the passage though the territorial sea problematic. The wording in Article 19 of the LOSC illustrates that some kinds of interference, such as any fishing activities (Article 19(i)), are considered prejudicial to the rights of the coastal State even if they are not deliberate, since the Article simply uses the phrase 'any fishing activities' or 'the carrying out of research or survey activities'. However, it is considered that interference with the installations of the coastal State should be wilful in order to be considered prejudicial to the rights of the coastal State. This is particularly understood from the term 'any act aimed at ...' in Article 19(k) of the LOSC. Therefore, any deliberate act which interferes with the coastal State's installations is regarded as prejudicial to the peace, good order or security of the coastal State.

We can conclude this section by maintaining that firstly, the coastal State may deny the passage of foreign ships through its territorial sea if they engage in any act deliberately aimed at interfering with the offshore installations of the coastal State. Secondly, the coastal State's laws and regulations relating to innocent passage through its territorial sea may force foreign ships to change their course or to follow certain instructions. However, the coastal State cannot hamper the passage of foreign ships generally.

5.3 Safety Zones Around Oil Rigs

The establishment of a safety zone around oil rigs is one of the most effective ways to protect them from collision and/or other dangers. The LOSC gives

the coastal State, or the State that owns or operates the oil installations, a right to establish a safety zone around their oil installations on the continental shelf,[22] the EEZ,[23] the high seas[24] and in the Area beyond the limits of national jurisdiction.[25]

5.3.1 History of Safety Zones

The history of the establishment of safety zones around offshore installations in international law goes back to the early days of the International Law Commissions' (ILC) deliberations on the topic in 1951.[26]

According to 71(2) of the ILCs' Report to the General Assembly in 1956, the coastal State is entitled to construct and maintain installations on the continental shelf, and to establish safety zones at a reasonable distance around such installations, taking the measures necessary, in those zones, for their protection.[27] In 1958 at UNCLOS I the issue of offshore installations and the safety zones around such installations was addressed in the context of the continental shelf.[28] Article 5 of the 1958 Continental Shelf Convention gives the right to the coastal State to construct and maintain or operate installations and to establish a safety zone around such installations.[29] The Continental Shelf Convention further provides that the safety zones around offshore installations may extend to a distance of 500 metres from the installations, measured from each point of their outer edge.[30]

In 1974, at the second session of the Conference, Nigeria proposed a set of provisions which included some comment on the safety zones around offshore installations.[31] The proposal provided that a coastal State may establish a reasonable area of safety zones around its offshore installations and artificial islands in which it could take appropriate measures to ensure the safety of both its installations and navigation. It further provided that such safety zones shall be designed to ensure that they were reasonably related to the nature and functions of the installations. The safety zones were described simply as a 'reasonable area' around offshore installations.[32]

The issue of safety zones around offshore installations was also discussed at the third session (1975), and the seventh session (1978) of the UNCLOS.

5.3.2 The Breadth of the Safety Zone

The issue of the breadth of the safety zone around oil rigs was discussed in both the UNCLOS I, II and III. The provisions adopted by Article 60 of the LOSC, with respect to the safety zone around oil installations, were similar to the provisions of the 1958 Continental Shelf Convention. However, there were a number of changes regarding the safety zones around offshore installations. For example, according to the Geneva Convention, on the Continental Shelf the safety zones may only be extended up to a distance of

500 metres around offshore installations,[33] whereas the LOSC permits extension of the safety zone, as authorised by generally accepted international standards, or as recommended by the competent international organisation.[34]

At UNCLOS I, in 1958, while a number of countries proposed a fixed limit for the maximum breadth of the safety zone, the United States of America opposed an exact maximum for the safety zone.[35] The reason behind the United States opposition to a specifically fixed maximum limit for the safety zone around offshore installations appeared to be the fact that the US, as one of the largest offshore oil producers, intended to maintain a wider choice in order to protect its large number of oil installations. Those who insisted on fixing the breadth of a safety zone argued that the lack of a fixed maximum would be vague and create a number of disputes.[36] A 50 metre safety zone around oil rigs was proposed by the Netherlands,[37] based on the dangers of fire which may be caused by the lighting of cigarettes by passengers from private yachts near installations.[38] However, a 500 metres maximum was finally accepted by the 1958 Continental Shelf Convention.

At UNCLOS III, at the 1973 session of the Seabed Committee, the United States of America proposed draft articles which included provisions on 'offshore installations' in 'the coastal State seabed economic area'.[39] In relation to the safety zone the proposal read as follows:

> ... the coastal State may, where necessary, establish reasonable safety zones around offshore installations in which it may take appropriate measures to protect persons, property, and the marine environment. Such safety zones shall be designed to ensure that they are reasonably related to the nature and function of the installation. The breadth of the safety zone shall be determined by the coastal State and shall conform to international standards in existence or to be established pursuant to article 3.

Article 3, paragraph 2, of the text provides that the breadth of the safety zone around offshore installations should be determined after consultation with the Inter-Governmental Maritime Consultative Organisation (IMCO).[40] Some States attempted to extend the limit of the safety zone to 2,000 or even 4,000 metres.[41]

In the same session of the Seabed Committee, a proposal by Argentina contained provisions similar to the US proposal, with respect to the construction of oil rigs and offshore installations, and the safety zone around such installations.[42] However, the Argentine proposal limited the safety zone to 500 metres. The proposals, in the Seabed Committee, at the first session of the UNCLOS (1973), regarding the safety zone around offshore installations, largely reflected the provisions of the 1958 Convention on the Continental Shelf.[43]

Finally, the 1982 LOSC accepted a distance of 500 metres around oil

installations. However, wider zones may be established if 'authorised by generally accepted international standards'.[44] From the discussions at UNCLOS III it is understood that delegations from the different States could not agree, resulting in the acceptance of 500 metres.

In 1985, in IMO discussions on the violation of safety zones around oil installations, a number of measures were proposed[45] to ensure the safety of oil rigs and navigation for inclusion in the 1972 International Convention on the Prevention of Collisions at Sea.[46] These included the establishment of 'cautionary zones' of a maximum of 3 nautical miles around the installations to ensure effective communication between passing ships and oil installations, and the making of fairways or routing systems in the areas of offshore exploration.[47] These proposals were rejected after a series of discussions, and as a result no recommendation on the extension of safety zones beyond 500 metres was made by the competent international organisation on safety zones.[48]

5.3.3 Types of Oil Rigs which May be Protected by the Safety Zone

The question may arise as to what kind of oil rigs are protected by safety zones according to international law. Can safety zones be established to protect only fixed platforms, or can they be established around mobile oil rigs as well? Neither the 1958 Continental Shelf Convention nor the LOSC specify what kind of installations may be protected by safety zones. According to the LOSC Convention, safety zones must be 'reasonably related to the nature and function of artificial islands, installations or structures'.[49] The meaning of 'reasonably related to the nature of installations' is not clear. This may mean that the establishment of a safety zone is allowed if it is necessary to ensure the safety of navigation and oil installations in the circumstances of the particular case.

There is no doubt that the coastal State is permitted to establish safety zones around its fixed oil installations. The wording and purpose of the LOSC covers fixed oil rigs. However, considering the terms used in Article 60(5), which states that the breadth of the safety zone shall be measured from each point of their outer edge, one may argue that mobile oil platforms are excluded. Nonetheless, it is also possible to establish according to the LOSC a safety zone around mobile oil rigs measuring from each point of its outer edge. There is no other reason to support that a coastal State cannot establish safety zones around oil rigs. Particularly, if we consider the purpose of a safety zone, which is to protect oil rigs against collision and other accidents, it can be concluded that a coastal State may establish safety zones around its mobile oil installations, when they are attached to the seabed or while they are involved in drilling activities.

A number of countries have established safety zones around their fixed installations only. For example, on the continental shelf of the Netherlands, safety zones of 500 metres have been established around only the fixed installations.[50] A similar approach has been taken by Australia,[51] Indonesia,[52] Malaysia,[53] Belgium,[54] Denmark,[55] France,[56] Malta,[57] Great Britain,[58] the Bahamas,[59] Thailand,[60] the USA[61] and Venezuela.[62]

5.3.4 Conclusions and Comment on Safety Zones

As previously stated the establishment of a safety zone around oil rigs is one of the most effective ways to protect these installations from collision. A limit of 500 metres for safety zones around oil rigs, was concluded at UNCLOS III because different States could not agree on anything else. Although, according to the LOSC a wider safety zone, as authorised by generally accepted international standards or as recommended by the competent international organisation, can be established, no recommendation on the extenuation of safety zones beyond 500 metres has been made by the competent international organisation (IMO).

Safety zones may be established around both mobile and fixed oil platforms. However, in practice safety zones have been established only around fixed oil installations.

It seems that the establishment of safety zones around oil rigs is not a sufficient measure to prevent collision between oil installations and ships. The statistics for collisions between oil rigs and ships in the North Sea indicate that the 500 metres safety zones have not been effective enough to prevent collisions.[63] The adoption of IMO resolutions with respect to the safety zones around oil rigs further indicates that the safety zones have not been efficient in the protection of oil rigs against collision.

5.4 IMO Resolutions

The IMO has adopted a number of resolutions in relation to the safety and protection of offshore oil installations, particularly with respect to safety zones around such installations. Resolution A.341(IX) contains recommendations on the dissemination of information, charting and manning of drilling rigs, production platforms and other similar structures. Resolution A.379(X) provides a recommendation for the establishment of safety zones in offshore exploration areas. Resolutions A.572(14) and A.578 (14) contain general provisions on ships and guidelines for Vessel Traffic Services. Resolutions A.621(15) and A.671(16) contain certain provisions in relation to safety zones and to prevent the infringement of safety zones. These two resolutions will be discussed below.

5.4.1 Resolution A.621(15)

Resolution A.621(15), Measures to Prevent Infringement of Safety Zones Around Offshore Installations or Structures,[64] contains a number of recommendations with respect to matters such as the passing of vessels close to oil installations and the regulations of the coastal State in relation to the operation and use of offshore installations. The resolution has not adopted any recommendation regarding the maximum limit for safety zones.

The Resolution recommends that vessels which are passing close to offshore installations or structures navigate with care when passing near offshore installations,[65] take early and substantial avoidance action when approaching such installations,[66] use any designated routing systems established in the area[67] and maintain a continuous listening watch on the navigation bridge on VHF channel 16 when navigating near offshore installations to allow radio contact to be established between installations, vessel traffic services and vessels.[68]

The Resolution further recommends that the coastal State which has authority and jurisdiction to regulate the use and operation of offshore installations issue early notices to mariners by appropriate means in order to advise vessels of the location or intended location of offshore installations or structures, the breadth of any safety zones and the rules which apply therein.[69] It is also recommended that the coastal State require operators of mobile oil drilling units to provide advance notice of changes in their location to the appropriate authority of the coastal State so as to allow the timely issue of notices to mariners.[70] It is also recommended that the coastal State require operators of offshore installations to take adequate measures, such as effective lights and sound signals, to prevent the infringement of safety zones around such offshore installations or structures.[71] Finally, it is recommended that the coastal State request operators of offshore installations to report actions by vessels which jeopardise safety, including the infringement of safety zones.[72]

States, other than the coastal State, that are aware of an infringement of the regulations relating to safety zones around offshore installations within their jurisdiction are requested to take action in accordance with international law.[73]

The Resolution finally recommends that the flag State that receives a complaint of an infringement of a safety zone by any of its vessels make inquiries and take action, where appropriate, in accordance with its national legislation, in light of the relevant information, giving due consideration to the rules of the safety zones infringed, the opportunities available to the vessel to be informed of the safety zone, the facts provided in the complaint and the results of any inquiry.[74]

This Resolution, like other Resolutions related to safety zones, was adopted on the basis of Article 15(j) of the Convention on the International Maritime Organisation,[75] Articles 60 and 80 of the LOSC, and Article 5 of the 1958 Geneva Convention on the Continental Shelf.

The Resolution includes a number of recommendations for vessels, coastal States, flag States and other States to prevent the infringement of safety zones around offshore installations. The recommendations are detailed and aim at bringing an end to the infringement of safety zones around oil rigs and offshore installations. The Resolution comprehensively covers a large portion of requirements necessary for the prevention of infringements of safety zones around offshore installations. Resolution A.621(15) is revoked by Resolution A.671(16). However, most of its contents are repeated in an Annex to Resolution A.671(16).

5.4.2 Resolution A. 671(16)

Resolution A.671(16) Safety Zones and Safety of Navigation around Offshore Installations and Structures was adopted on 19 October 1989.[76] This Resolution provides a number of recommendations to governments, coastal States and flag States. It adopts the Recommendation on Safety Zones and Safety of Navigation around Offshore Installations and Structures in an Annex to the Resolution. This consists primarily of recommendations included in Resolution A.621(15).

The Resolution recommends that governments consider, where traffic patterns warrant, the establishment of safety zones around offshore installations or structures.[77] It is recommended that governments take all necessary steps to ensure that, unless specifically authorised, ships flying their flags do not enter or pass through duly established safety zones.[78]

The Annex of the Resolution contains mainly those recommendations in Resolution A.621(15) which were discussed above. The Annex further provides certain recommendations with respect to the dissemination of information related to offshore installations and structures. For example, the coastal State should be responsible for the dissemination of information essential for the safety of navigation or any other legitimate activities within the area in which, in accordance with international law, it has sovereign rights and jurisdiction.[79] Details of any safety zone around the installation or structure and any fairways and routing systems established in its vicinity including, where relevant, their marking, should be taken into account to deal with the dissemination of information.[80] Any features of a sufficiently permanent nature such as permanent installations or structures, bottom obstructions, pipelines, navigational marks and prohibited areas should be shown on all appropriate navigational charts.[81]

5.4.3 Comment on IMO Resolutions

Resolution 621(16) is a complete version of Resolution 621(15) which provides for certain further recommendations. Generally, the Resolution and its Annex cover a detailed range of measures to prevent the infringement of safety zones around offshore installations or structures. The Annex which mainly includes the recommendations in Resolution 621(15) has made some adjustments to some of the defects in the recommendations of Resolution 621(15). For example, those recommendations in Resolution 621(15) addressed to the flag State, which required urgent action, were of little practical value because investigation of the facts of a report of an infringement of a safety zone by a vessel flying its flag was not possible in a short time, and therefore, the flag State usually had to 'give way to the regulatory requirements of the coastal State'.[82] The Annex to Resolution 621(16) has adjusted this recommendation and states that 'every flag State which receives a report of an infringement of a safety zone by a vessel flying its flag should make inquiries, take action, where appropriate, in accordance with its national legislation and inform, as appropriate, the coastal State concerned of the follow-up action it has taken'.[83]

The problem with the IMO resolutions is that they are not legally binding upon State parties to the LOSC.

5.5 The 1988 Protocol for the Prevention and Suppression of Terrorism Against Fixed Platforms on the Continental Shelf

The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation[84] which was concluded to protect navigation from terrorist acts did not make any reference to offshore oil platforms. Instead, a separate Protocol was included to cover oil rigs. The Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf[85] contains certain provisions to protect fixed oil rigs from terrorist activities. The Protocol applies to fixed platforms which are defined as artificial islands, installations or structures permanently attached to the seabed for the purpose of exploration or exploitation of resources or for other economic purposes.[86] The terms of the Protocol used to describe 'fixed platforms' are taken from Article 60 of the LOSC. However, it does not apply to mobile oil rigs such as jack-up rigs. Although certain kinds of mobile oil rigs may be fixed to the seabed to drill a well for a limited time, they cannot be considered 'permanently attached to the seabed'. Therefore, they are excluded from the application of the Protocol. The Protocol only applies to fixed platforms located on the continental shelf.[87] Therefore, oil rigs which are in the territorial waters, the EEZ, if it is longer than the continental shelf, and on the seabed area, beyond the limits of national jurisdiction, are not covered by this Protocol.

The Protocol requires each State Party to enact legislation in order to make certain offences punishable by appropriate penalties.[88] Article 2 of the Convention lists a number of acts which constitute an offence, and are the same as those acts mentioned in Article 3 of the Convention.[89] These acts include a seizure or exercise of control over a fixed platform by force, performing an act of violence against a person on board a fixed platform if that act is likely to endanger its safety, destruction of a fixed platform or causing damage to it which is likely to endanger its safety, and placing a device or substance on a fixed platform which is likely to destroy that fixed platform or likely to endanger its safety.[90] Crimes, such as murder, are covered by the Protocol only if they are committed in connection with the commission or the attempted commission of any of the offences mentioned in sections (a) to (d) of Article 3 of the Protocol. This means that ordinary homicide and other acts of violence are not covered by the Protocol, but by the jurisdiction of the coastal State, or the jurisdiction of the State whose national commits the crime. Any attempt to commit the crimes set forth in Article 3,[91] or abetting the commission of any such offences, and any threat aimed at compelling a physical or juridical person to do or refrain from doing any act, fall within the scope of the Protocol.[92] The wording of Articles 1(1), 2 and 3(1)(b) of the Protocol does not clarify whether State parties must punish offences committed on board or against platforms located on the continental shelf of a State party, or further, if they are obliged to punish or extradite those who have committed offences against platforms located on the continental shelf of a third party. By accepting the latter, a State party is obliged to fulfil certain duties, such as the extradition of offenders, to States which are not parties to the Protocol. Therefore, as Ronzitti points out, the former solution 'seems the most plausible'.[93]

As mentioned in Article 2 of the Protocol, State Parties to the Protocol shall take such measures to punish offenders who commit the offences on an oil rig located on its continental shelf or offenders who are their own nationals.[94] It is understood that in this latter case, the punishment shall be prescribed even if the crime, by a national of the State Party, has been committed against or on board a platform located on the continental shelf of another State.[95] The coastal State may establish jurisdiction when the offence is committed by a stateless person who resides in that State.[96] It also may have jurisdiction when one of its nationals is the victim of a crime.[97] Establishment of jurisdiction in these respects shall be notified to the Secretary General of the IMO.[98] The Protocol does not exclude the national jurisdiction of a State to take measures to punish offenders according to national criminal law.[99] This means that a coastal State may exercise its jurisdiction to punish offences committed on the continental shelf of any

consent such part of that area as may be specified in the order.[116] This part of the Act does not specify whether the area which may be specified by an order is a 500 metre safety zone around an offshore installation, or if it can be another part of a designated area. However, in relation to the application of criminal and civil law on board or with respect to oil installations Section 3 of the Act provides that any act or omission which 'takes place on, under or above an installation in a designated area or any waters within 500 metres of such an installation and would, if taking place in any part of the United Kingdom, constitute an offence under the law in force in that part, shall be treated for the purpose of that law as taking place in that part'.[117] This illustrates that the 1964 UK Continental Act accepts a maximum of 500 metres as the outer limit of a safety zone around offshore installations.

A number of others countries have legislation which covers the issue of safety zones around oil installations. These countries include Belgium,[118] Bulgaria,[119] Denmark,[120] France,[121] Ireland,[122]Malaysia,[123] New Zealand,[124] Nigeria,[125] Pakistan,[126] Poland,[127] Portugal,[128] Russia,[129] Sweden[130] and Venezuela.[131]

State practice shows that countries have used different methods to protect offshore oil rigs. The establishment of safety zones around offshore installations is apparently the most significant way to implement a safety regime for the protection of offshore oil rigs. A number of countries have authorised the establishment of safety zones without specifying the exact limitation of the zone.[132] However, most countries have specified a distance of 500 metres as the limit of a safety zone.[133] A number of countries have prohibited all or unauthorised ships from entering the safety zones.[134] Certain countries have prescribed penalties for any unauthorised entrance to the safety zones around their offshore installations.[135]

The issue of the protection of oil installations has not been addressed in detail in the national laws of different countries. As mentioned, States practice demonstrates that the establishment of safety zones around oil rigs is the most usual step taken by individual countries with respect to the protection of offshore oil installations. Other methods to protect offshore oil platforms such as dissemination of information, necessary requirements for the prevention of infringement of safety zones, appropriate steps, such as marking the limits of safety zones, and plenary provisions against any illegal action on boards oil rigs has not been introduced by State legislation.

It is recommended that States should consider recommendations provided by the IMO Resolutions as discussed above. These Resolutions contain a number of useful recommendations which have thus far not been adopted by national legislation. As the number of offshore oil installations is increasing, the need for the implementation of the IMO Resolutions becomes more obvious.

5.7 Conclusion

International law provides measures for the protection of offshore oil rigs on different parts of the sea. These measures include authorising the coastal State to make laws to protect installations on its territorial sea, the establishment of safety zones around oil rigs on the continental shelf, the EEZ and the Area, and to give effect to the provisions of the 1988 Protocol for the Prevention and Suppression of Terrorism Against Fixed Platforms on the Continental Shelf and the recommendations of the IMO with respect to the protection, against collisions, of oil installations.

The LOSC authorised the coastal State to adopt laws and regulations, in conformity with the provisions of the rules of international law in relation to innocent passage through the territorial sea, in order to protect offshore installations. The coastal State may prevent innocent passage if the foreign ships engage in any act aimed at interfering with the installations of the coastal State. Minor interference caused by foreign ships through the territorial sea cannot be used as a basis for the coastal State to deny the innocent passage of foreign ships, since international law requires that innocent passage by foreign ships is ensured by the coastal State. In the case of minor interference with an oil rig, the coastal State may reasonably require foreign ships to divert from their original course or follow certain instructions.

The establishment of a 500 metre safety zone around both fixed and mobile offshore installations, recognised by the 1958 Continental Shelf Convention and the LOSC, is aimed at preventing collisions between ships and oil rigs. The IMO has adopted a number of resolutions containing recommendations in order to put an end to the infringement of offshore installations and to protect oil rigs from collisions. The IMO Resolutions, particularly Resolution A.621(15), recommended a detailed range of measures to prevent the infringement of safety zones around offshore installations or structures. From the statistics of collision between oil rigs and ships after the conclusion of the 1958 Geneva Convention on the Continental Shelf and the 1982 LOSC it can be understood that a 500 metres safety zone around oil installations has not been an efficient measure for the prevention of collisions of ships with oil rigs. The adoption of IMO resolutions with respect to the safety zones around oil rigs further indicates that the safety zones have not been sufficient enough to protect oil rigs against collision.

Many States have prescribed in their legislation the establishment of safety zones and measures, including criminal sanctions, in order to prevent the infringement of safety zones. However, State practice lacks other efficient measures for the protection of oil rigs.

The 1988 Protocol for the Prevention and Suppression of Terrorism

Against Fixed Platforms on the Continental Shelf is the first international treaty which addresses the protection of offshore oil rigs against terrorism. However, the efficiency of the Protocol for protecting offshore oil rigs is doubtful, because the Protocol always refers to the provisions of the 1988 Rome Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation and that Convention is concerned with the protection of ships. As a result the application of the Protocol to oil rigs is confusing.

Although external attacks, such as assault, military and/or terrorist attacks against offshore oil rigs is a rare occurrence at this stage these incidents may increase as the rate of offshore oil production and the number of offshore oil rigs is increasing worldwide. However, collisions between oil rigs, either mobile or fixed, is a common occurrence which often leads to environmental disasters, loss of life and economic damage.

State practice shows that the protection of oil installations as such has not been the subject of frequent legislation. The establishment of safety zones around oil installations is the primary measure which has been taken by many states to protect their installations. It is suggested here that the IMO recommendations should, in the form of domestic legislation, be applied to offshore oil rigs in different parts of the sea to guarantee the safety and protection of installations.

Notes

1. JK Robson, Offshore Technology Report. OTO 96 042, Finalisation of Ship/Platform Collision Incident Report (1995), Health and Safety Executive, Issued June 1997 p 2: This data have been extracted from the following sources:
   Review of the Offshore Collision Incident Database and Report Ma1Ro137 Update of Collision Incident Database; Study of Damage to UK Fixed Steel Platform Jackets; Lloyds Maritime Information Service (LMIS) using the criteria 'casualty between vessel and offshore oil/gas installation'; Marine Accident Investigation Branch (MAIB) using the search criteria 'offshore installation – collisions and contacts'; Offshore Safety Division of Health and Safety Executive; Billington Osborne – Moss Engineering Limited – Drawing No C/587/Roo2.22; Update of the UKCS Overview.
2. On 19 October 1987 and 18 April 1988 several warships of the US Navy attacked and destroyed three Iranian offshore oil rigs in the Persian Gulf. On 2 November 1992 Iran filed in the Registry of the International Court of Justice an application instituting proceedings against the United States of America. Iran argued that the United States' actions constituted a 'fundamental breach' of international law. The Iranian allegation was based on the fact that the US violated various provisions of the 1955 Treaty of Amity, Economic relations and Consular Rights between two countries. Specifically, Iran claimed that the United States breached its obligations to Iran under Art I and X(1) of the 1995 Treaty. Iran further argued that the United States, for violating international law and causing billions of dollars worth of damage caused to Iran, was under an obligation to make reparations to Iran in a form and amount to be determined by the ICJ. On the other hand the United States alleged that Iranian attacks on shipping, the laying of mines, and other military actions in the Persian Gulf were dangerous and detrimental to maritime commerce. Therefore, Iran was under an obligation to make reparations to the United States for breaching the 1955 Treaty of Amity. The *Oil Platform Case (Islamic Republic of Iran v United States of America)* is still to be heard: *Australian International Law Journal* (2000) at 363-364. See also the ICJ Homepage (viewed February 2001) at: *http://www.icf-cij.org*.
3. See N Ronzitti, 'The Prevention and Suppression of Terrorism Against Fixed Platforms on the Continental Shelf', in N Ronzitti *Maritime Terrorism and International Law*, Martinus Nijhoff (1990) 91.
4. LOSC, Art 21(1)(b).
5. LOSC, Art 60(4).
6. 2 ILM (1988) 685.
7. Such as Resolution No A.621(15) adopted by the IMO Assembly at its 15th session in November 1987.
8. LOSC, Art 2(1).
9. LOSC, Art 17; Art 24 of the LOSC further provides: 'The coastal State shall not hamper the innocent passage of foreign ships though the territorial sea except in accordance with this Convention. In particular, in the application of this Convention or of any laws or regulations adopted in conformity with this Convention, the coastal State shall not:
   (a) impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage; or
   (b) discriminate in form or in fact against the ships of any State or against ships carrying cargoes to, from or on behalf of any State.
   2. The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea'.
10. LOSC, Art 19(2)(k).
11. LOSC, Art 19(1).
12. SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, a Commentary*, Martinus Nijhoff (1993) Vol II p 200.
13. Para 1(b).
14. LOSC, Art 21(1).
15. For a discussion of innocent passage through the territorial sea, see DP O'Connell, *The International Law of the Sea* (IA Shearer ed 1982) vol I, Chapter 7; RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) pp 81-100; AV Lowe, 'Uniform Interpretation of the Rules of International Law Governing Innocent Passage' (1991) 6 *International Journal of Estuarine and Coastal Law* 73; and KM Burke and DA Deleo, 'Innocent Passage and Transit Passage in the United Nations Convention on the Law of the Sea' (1983) 9 *Yale Journal of World Public Order* 389.
16. A/CONF 62/C.2/L.3 (1974), Chapter II, Art 16, Paras 1 and 2, III Off Rec 183, 184 (UK), as discussed in SN Nandan and S Rosenne, note *supra*, Vol II p 200.
17. See R Platzoder, *Third United Nations Conference on the Law of the Sea: Documents*, Oceana Publications (1982) Vol III, p 218.
18. They are: (b) any exercise or practice with weapons of any kind; (c) any act aimed at collecting information to the prejudice of the defence or security of the coastal State;

(d) any act of propaganda aimed at affecting the defence or security of the coastal State; (e) the launching, landing or taking on board of any aircraft; (f) the launching, landing or taking on board of any military device. (see LOSC, Art 19(2)).

19. LOSC, Art 19(g),(i) and (j).
20. LOSC, Art 19(h).
21. LOSC, Art 19(l).
22. LOSC, Art 80.
23. LOSC, Art 60(4).
24. LOSC, Art 87(d).
25. LOSC, Art 147(2)(e).
26. CR Symmons, *The Maritime Zones of Islands in International Law*, Martinus Nijhoff (1979) p 105.
27. YILC (1956) Vol II p 299.
28. SN Nandan and S Rosenne, note *supra*, p 573.
29. Art 5(3).
30. *Ibid*.
31. A/CONF 62/C.2/L.21/Rev 1 (1974), Art 1, Paras 3 and 4, and Art 3, Para 4, III Off Rec 199 (Nigeria), as discussed in SN Nandan and S Rosenne, note *supra*, p 576.
32. Para 3.
33. Art 5(3).
34. LOSC, Art 60(5).
35. Off Rec Vol 6, p 88. See also, G Ulfstein, 'The Conflict Between Petroleum Production, Navigation and Fisheries in International Law' (1988) 19 *ODIL* 229 at 244.
36. Official Record, Vol VI, at pp 84 (Yugoslavia) and 86 (Netherlands and Canada)
37. A/CONF 13/C.4/L.22.
38. Off Rec, Vol 6, p 86.
39. See III SBS Report 1973, at 75, 76 (USA), as discussed in SN Nandan and S Rosenne, note *supra*, p 575.
40. IMCO is now IMO (International Maritime Organisation).
41. DP O'Connell, note *supra*, p 503.
42. A/Ac.138/SC.II/L.37, Arts 24 to 26, reproduced in III SBS Report 1973, at 78, 81 (Argentina), as discussed in SN Nandan and S Rosenne, note *supra*, p 576.
43. SN Nandan and S Rosenne, *ibid*.
44. LOSC, Art 60(1)(5).
45. By Canada.
46. Note by the Government of Canada, IMO NAV 31/10/1, 2 May 1985.
47. Note by the Government of Canada, IMO NAV 31/10/1, 2 May 1985.
48. G Ulfstein, note 35 *supra*.
49. Art 60(5).
50. PFM Van Der Meer Mohr, 'Measures to Prevent Collision with Offshore Installations on the Dutch Continental Shelf' (1988) 1 *IJIL* 222 at 223.
51. Petroleum (Submerged Lands) Act, 1967, Art 119(1).
52. Law No 1 on the Continental Shelf, 1973, Art 6.
53. Continental Shelf Act, 1966 (Revised 1972), Art 6.
54. Arrete Royal 16 May 1977, Art 3.
55. Act on the Continental Shelf No 259, 9 June 1971, Art 4.

56. Loi No 68-1181 du 30 Decembre 1968, Art 3.
57. Continental Shelf Act, 22 July 1966, Art 4.
58. Oil and Gas(Enterprise) Act, 1982. Sec. 21(1).
59. Continental Shelf Act No 17, 1970, Art 4.
60. Petroleum Act, 26 March 1971. Sec. 14.
61. 33 CFR Ch I (7-1-85) Part 1471 Para 147. 1.
62. Law , 26 July 1978, Art 8.
63. See this Chapter above, Section 5.1.
64. Adopted on 19 October 1989, at the Fifteenth Session of IMO Assembly which was held from 9-20 November 1987.
65. Resolution A.621(15), Section 1(a)(i).
66. Resolution A.621(15), Section 1(a)(ii).
67. Resolution A.621(15), Section 1(a)(iii).
68. Resolution A.621(15), Section 1(a)(iv).
69. Resolution A.621(15), Section 1(b)(i).
70. Resolution A.621(15), Section 1(b)(ii).
71. Resolution A.621(15), Section 1(b)(iii).
72. Resolution A.621(15), Section 1(b)(iv).
73. Resolution A.621(15), Section 1(c).
74. Resolution A.621(15), Section 1(d).
75. Art 15(j) of the Convention on the International Maritime Organisation is concerned with the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships.
76. IMO Assembly, Sixteenth Session, 1989, Resolutions and other decisions, London (1990).
77. Resolution A.671(16), Section 1(c).
78. Resolution A.671(16), Section 1(d).
79. Resolution A.671(16), Section 4.1.
80. Resolution A.671(16), Section 4.2.
81. Resolution A.671(16), Section 5.1.
82. See PFM Van Der Meer Mohr, note *supra*, at 227.
83. Resolution A.671(16), Annex, Section 3.2.
84. 27 ILM (1988) 672.
85. 27 ILM (1988) 685.
86. Art 1(3).
87. Art 1(1).
88. Art 1(1).
89. Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, note *supra*.
90. Art 2.
91. Art 3(1).
92. Art 2(2).
93. N Ronzitti, note *supra*, at 94.
94. Art 3(1).
95. N Ronzitti, note *supra*, at 94.
96. Art 3(2)(a).

97. Art 3(2)(c).
98. Art 3(3).
99. N Ronzitti, note *supra*, at 94.
100. N Ronzitti Maritime Terrorism and International Law, Martinus Nijhoff (1990) p vii.
101. *Ibid*, p vii.
102. *Ibid*, p vii.
103. *Ibid*, p vii.
104. *Ibid*, p viii.
105. N Ronzitti, note *supra*, at 91.
106. For example, Art 1(1) of the Protocol prescribed that the provisions of Arts 5 and 7 and of Arts 10 to 16 of the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation shall also apply mutatis mutandis to the offences set forth in Art 2 of this Protocol.
107. See Chapter 3 above.
108. N Ronzitti, note *supra*, at 96.
109. DP O'Connell, note *supra*, p 503: 'Oil rigs are high-value targets for external attack in a period of tension or war, or for peacetime terrorist attack or other malicious damage, although, short of an assailant possessing suitable vessels and advanced weaponry, they are not easy to attack or sabotage successfully'.
110. Petroleum (Submerged Lands) Act No 118 of 1967, Art. 19(1).
111. Petroleum (Submerged Lands) Act No 118 of 1967, Art. 19(3).
112. Petroleum (Submerged Lands) Act No 118 of 1967, Art. 19(3).
113. Sea Installations Act 1987, Art 57(1) and 57 (2).
114. Sea Installations Act 1987, Art 57(1).
115. Sea Installations Act 1987, Art 57(3).
116. Continental Shelf Act 1964 of 15 April 1964, Section 2(1).
117. Continental Shelf Act 1964 of 15 April 1964, Sections 3(1)(a) and 3(1)(b).
118. The Continental Shelf Act of Belgium provides that a safety zone may be established according to the procedures determined by the King for each installation or device situated on the continental shelf. (Continental Shelf Act, 13 June 1969, Art 6.) The Act also maintains that the safety zone may extend to a distance of 500 metres measured from each point of the outer edge of these installations or devices. (Continental Shelf Act, 13 June 1969, Art 6.) Furthermore, a Royal Decree provides that a safety zone of at most 500 metres shall be established around fixed and anchored installations or devices set up at sea. (Royal Decree on Measures to Protect Navigation, Sea Fishing, the Environment and other Essential Interests in the Exploration and Exploitation of the Mineral and Other Non-living Resources of the Sea-bed and Subsoil in the Territorial Sea and on the Continental Shelf of 16 May 1974 as Amended by the Royal Decree of 22 April 1983, Art 3.) The Decree empowers the King to set the method of delimiting the safety zone and the conditions to be fulfilled in that zone.(Royal Decree on Measures to Protect Navigation, Sea Fishing, the Environment and other Essential Interests in the Exploration and Exploitation of the Mineral and Other Non-living Resources of the Sea-bed and Subsoil in the Territorial Sea and on the Continental Shelf of 16 May 1974 as Amended by the Royal Decree of 22 April 1983, Art 3).
119. According to Bulgarian law, a safety zone shall be established around offshore installations at a distance of no more than 500 metres from their outer edge. (Act of 8 July 1987 Governing Ocean Space of the Peoples' Republic of Bulgaria, Art 68(2)). However, a safety zone may extend further if its dimensions conform to generally accepted international standards.

120. In Denmark the Minister of Commerce may proclaim rules on safety measures in connection with the establishment and operation of offshore installations on the Danish continental shelf (Royal Decree of 7 June 1963 Concerning the Exercise of Danish Sovereignty over the Continental Shelf, Para 4). The Minister may also provide certain rules with respect to the establishment of safety zones around offshore installations on the Danish continental shelf (Royal Decree of 7 June 1963 Concerning the Exercise of Danish Sovereignty over the Continental Shelf, Para 4(2)). These safety zones may not exceed 500 metres, measured from any point at the outermost edge of these installations (Royal Decree of 7 June 1963 Concerning the Exercise of Danish Sovereignty over the Continental Shelf, Para 4(2)). The Minister is also authorised to prescribe rules governing navigation in safety zones and may prohibit ships from entering these zones (Royal Decree of 7 June 1963 Concerning the Exercise of Danish Sovereignty over the Continental Shelf, Para 4(2)).
121. According to French law, a safety zone may be established around installations and devices extending to a distance of 500 metres.(Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to the Exploration of its Natural Resources, Art 4). Unauthorised access to this zone for reasons unconnected with an exploration or exploitation operation is prohibited. French law also provides that for the protection of installations on the continental shelf, restrictions may be imposed on the overflight of installations and the safety zones around them (Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to the Exploration of its Natural Resources, Art 4). The law further prescribes a penalty for unlawfully entering a safety zone around an offshore oil rig on the continental shelf. Therefore, any person who, except in a case of force majeure, unlawfully enters a safety zone or unlawfully overflies such a safety zone, after the competent authorities have taken appropriate measures to inform navigators of the location of the said zone, shall be liable to imprisonment for a term of between 11 days and three months and to a fine ranging from 1,000 to 5,000 francs, or to one of these two penalties only (Act No 68-1181 of 30 December 1968 Relating to the Exploration of the Continental Shelf and to the Exploration of its Natural Resources, Art 32).
122. Unlike the laws of Australia, Belgium, and France, the 1968 Irish Continental Shelf Act is vague in relation to the limits of the safety zone around oil installations. According to Art 6(1) of the Act 'the Minister may, for the purpose of protecting any installation in a designated area, after consultation with the Minister for Transport and Power and the Minister for Agriculture and Fisheries, by order, subject to any exceptions provided by the order, prohibit ships from entering without his consent such part of those areas as may be specified in the order'. (1968 Irish Continental Shelf Act, Art 6(1)). There are similarly vague provisions in the 1966 Continental Shelf Act of Malta. This Act provides that for the purpose of protecting offshore installations, the Prime Minister may, by an order published in the Government Gazette, prohibit ships from entering without his consent such part of that area as may be specified in the order (Continental Shelf Act No XXXV of 22 July 1966, Art 4(1)).
123. The Malaysian Continental Shelf Act authorised the Government to make regulations

for the establishment of safety zones, extending to a distance not exceeding 500 metres, measured from each point of the outer edge of the installation or device, around any device on its continental shelf (Continental Shelf Act 1966, Act No 57 of 28 July 1966, as amended by Act No 83 of 1972, Art 6(1)(c)). The Government may also prescribe such measures as it considers necessary in any such safety zone for the protection of the installation or device in respect of which the safety zone is established (Continental Shelf Act 1966, Act No 57 of 28 July 1966, as amended by Act No 83 of 1972, Art 6(1)(d)) Ships may be prohibited from entering into safety zones (Continental Shelf Act 1966, Act No 57 of 28 July 1966, as amended by Act No 83 of 1972, Art 6(1)(e)). Unlike the Continental Shelf Act, the Malaysian Exclusive Economic Zone Act 1984 does not specify the distance of a safety zone around an offshore installation. This Act provides that 'the breadth of the safety zones shall be determined by the Government, taking into account navigation and the applicable international standards in relation to artificial islands, installations and structures'. (Exclusive Economic Zone Act, 1984, Act No 311, Section 21(4)). Also due notice shall be given of the extent of the safety zones (Exclusive Economic Zone Act, 1984, Act No 311, Section 21(4)). All vessels must respect the safety zones around offshore installations and comply with any direction which the Government may give in accordance with generally accepted international standards with respect to navigation in the vicinity of offshore installations, artificial islands and safety zones (Exclusive Economic Zone Act, 1984, Act No 311, Section 21(5)).

124. In New Zealand the Governor-General is permitted from time to time, by order in Council, to make regulations for establishing safety zones, extending to a distance not exceeding five hundred metres measured from each point of the outer edge of the installations or device, around any such installations or devices in, on, or above the continental shelf (Continental Shelf Act, No 28 of 3 November 1964, as amended by Territorial Sea and Exclusive Economic Zone Act No 28 of 26 September 1977, Art 8(1)(c)).
125. Nigerian law, without specifying the extent of the safety zone, provides that the authority may, for the purpose of protecting any installations in a designated area in the EEZ by order published in the Gazette, prohibit ships from entering without its consent such part of that area as may be specified in such order (Exclusive Economic Zone Decree No 28 of 5 October 1978, Art 3(2)). The law further prescribes a punishment of a fine of N5,000 or imprisonment for 12 months or both for any ship that enters any part of a designated area in contravention of an order made by the authority (Exclusive Economic Zone Decree No 28 of 5 October 1978, Art 3(3)).
126. In Pakistan, the Federal Government is authorised to make provisions with respect to the safety and protection of artificial islands, offshore terminals, installations and other structures in the EEZ (Territorial Waters and Maritime Zones Act 1976 of 22 December 1976, Art 4(b)(iii)).
127. The law of Poland permits the establishment of safety zones around artificial islands extending not more than 500 metres measured from each point of their outer edge. However, a different width for the zone is authorised by the generally accepted standards of international law or recommended by the competent international organisation (Act Concerning the Maritime Zones of the Polish Republic and the Marine Administration, 21 March 1991, Art 24).
128. Portuguese law obliges those who have a licence to construct oil installations to establish a safety zone around their installations or devices, and make every effort to provide such protection and marking systems as the competent national authorities deem appropriate and consistent with the agreement and conventions to which the Portuguese State is a party (Decree Law No 49-369 of 11 November 1969, Art. 5(4)).
129. According to Russian Federation law safety zones shall be established around artificial islands, installations and structures wherever necessary, which shall not exceed a distance of 500 metres around such installations (Decree of the Union of Soviet Socialist Republics on the Economic Zone of 28 February 1984, Section 7). In the safety zones the competent authorities may determine the appropriate measures to ensure the safety of offshore installations and artificial islands (Decree of the Union of Soviet Socialist Republics on the Economic Zone of 28 February 1984, Section 7).
130. In Sweden, the Government, or an authority designated by it, has the right to order the establishment of a safety zone to protect installations set up for the exploration of the continental shelf up to 500 metres from the outer limits of the installation (Act No 314 of 3 June 1966 Concerning the Continental Shelf, Art 6). The Government is further authorised to issue instructions as may be required for safeguarding such a zone (Act No 314 of 3 June 1966 Concerning the Continental Shelf, Art 6) Except if provided by the law, ships shall not be permitted to sail into the safety zone without the consent of the owner of the installation.(Act No 314 of 3 June 1966 Concerning the Continental Shelf, Art 6).
131. In Venezuela the Government may, where necessary, establish safety zones around offshore installations in which it may take appropriate measures to ensure the safety of installations (Act establishing an Exclusive Economic Zone along the coasts of the Mainland and Islands of 26 July 1978, Art 4). The safety zone shall be reasonably related to the nature and function of offshore installations and artificial islands and shall not exceed a distance of five hundred metres.(Act establishing an Exclusive Economic Zone along the coasts of the Mainland and Islands of 26 July 1978, Art 5). All ships must respect these safety zones and shall comply with generally accepted international standards with respect to navigation in the vicinity of offshore installations and safety zones (Act establishing an Exclusive Economic Zone along the coasts of the Mainland and Islands of 26 July 1978, Art 6).
132. Such as Nigeria.
133. Such as Australia, Bulgaria, Denmark, France, Poland, Russia and Sweden.
134. Such as Australia, France and Sweden.
135. Such as Australia and Nigeria.

6 Environmental Issues Relating to Offshore Oil Rigs

6.1 Introduction

The exploration of the seabed and exploitation of its natural resources, which includes drilling activities connected with offshore oil rigs, is a source of marine pollution. According to the statistics compiled by the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) in 1993 the major causes of marine pollution consisted of 44 percent land based discharge, 33 percent atmospheric inputs, 12 percent marine transport, 10 percent dumping and 1 percent oil exploration and production.[1] Two categories of the sources of marine pollution are related to the use and operation of offshore oil rigs. These are oil exploration and production, which is directly related to oil rigs and dumping which can be done from oil installations and can include offshore disposal of installations. Furthermore, the chance of a catastrophic blowout always exists. Several major accidents have occurred, the first serious one being the Ixtoc I disaster in the Gulf of Mexico on June 3, 1979. As a result of this accident, an oil slick damaged the Texas coast including a number of private beaches, as well as the shrimping and tourist industries.[2] Following this disaster a series of law suits were instituted against the Mexican Government and the relevant companies.[3] Similar accidents occurred in the Persian Gulf during the Iran-Iraq war (1980-1988) and the Gulf War (1990).[4] Furthermore, the disposal of oil rigs at sea,[5] dumping from oil rigs and certain materials related to drilling at sea such as drill cuttings pollute the marine environment. Although marine pollution from the exploration and production of oil and gas remains, at this time, less than other sources, it is increasing as the rate of offshore oil and gas exploration is increasing.

Pollution resulting from the establishment and use of oil rigs for the purpose of exploration of the seabed and exploitation of its natural resources is but one form of marine pollution.[6] This means that environmental issues related to offshore oil rigs can be discussed within the framework of the wider concept of 'marine pollution'. However, this chapter intends to review and examine the international law provisions which are directly related to the issue of offshore oil and gas production from oil rigs. The Chapter will first discuss the sources of marine pollution resulting from the exploration and production of oil and gas from offshore oil rigs. It will then examine the

existing international law regulations which cover the issue of pollution from oil and gas installations. The principles of international customary law, global and regional conventions, and international State responsibility which are related to the issue of marine pollution from oil rigs will then be examined. Finally, civil liability concerning the pollution resulting from the exploration and production of oil from offshore resources will be discussed.

6.2 Nature of the Problem

In 1969 the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) defined pollution as the introduction by man, directly or indirectly, of substances or energy to the marine environment which results in deleterious effects on marine activities, such as fishing and other living resources, the impairment of the quality and the use of seawater, and the reduction of amenities.[7]

In addition, the LOSC defines marine pollution as follows:

> 'Pollution of the marine environment' means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.[8]

It appears that the LOSC has adopted a modified version of the GESAMP definition.[9]

Pollution, specifically oil pollution, can affect the marine environment including fish, birds, mammals and marine bacteria, phytoplankton and invertebrates of the sea. It can affect the ecosystem by the destruction of sensitive immature life forms or through the elimination of food sources. However, there is no conclusive research to show the extent of the environmental impact of drilling operations.[10]

Oil is the main marine pollution problem.[11] Oil can cause physical, biological and chemical changes to the sea.[12] It also creates oil slicks. The oil slick does not remain in one area and can damage the shores of neighbouring countries. The cleaning of shores and beaches damaged by oil is difficult and costly. A large oil spill has a substantial impact on the ecology of the sea.[13]

Pollution from seabed activities and dumping are the two most significant threats to the marine environment caused by the use of offshore oil rigs. The pollution of the marine environment by offshore platforms can occur as a

result of the drilling cuttings, accidental spills, and flaring operations.[14] It may also occur when offshore oil rigs use oil based drilling mud.[15] The blowup of an offshore well, accidental events and military and terrorist attacks on oil platforms may also pollute the marine environment.

6.3 Sources of Pollution from Oil Rigs

According to the classifications in the 1982 LOSC there are five sources of marine pollution. These are land based pollution,[16] pollution from seabed activities,[17] pollution from dumping,[18] pollution from vessels[19] and pollution from and through the atmosphere.[20]

6.3.1 Pollution from Seabed Activities

The exploration and exploitation of oil and gas from the seabed, and drilling activities connected with offshore oil wells, may cause pollution to the marine environment. The blow-out of an offshore oil rig[21] may result in an uncontrolled discharge of oil. However, this is not a frequent event. The other major sources of pollution related to drilling operations include drilling mud, drill cuttings, and produced waters.[22]

6.3.1.1 Drilling Mud Drilling mud or drilling fluid is 'the steam of gases, liquids and solids suspended in liquid, with additives, which circulates through the drill string and the annulus at high pressure, and is an essential requirement for all rotary drilling operations'.[23] There are two kinds of drilling mud. Drilling mud, when it contains water, is called water-based mud (WBM), and drilling mud which contains water and about 70-80 percent oil is called oil-based mud (OBM).[24] The latter includes some known toxic pollutants such as hydrocarbons and concentrations of heavy metals, including chromium, cadmium, copper, zinc, lead, mercury and nickel. WBM, which serves the same purpose as OBM, may include similar components to those of OBM.[25] Although WBM was introduced in order to lessen the environmental impact of OBM since 1985, the polluting legacy remains.[26]

6.3.1.2 Drill Cuttings A drill cutting is 'a piece of rock which has been chipped, ground or scraped out of a formation by the drill bit'[27] which is carried to the surface in the drilling mud. It is another major source of pollution from offshore drilling operations. Although the cuttings are not harmful in themselves, they cause pollution to the marine environment by physically suffocating the benthic community and by moving pollutants in the mud into the water.[28]

6.3.1.3 Produced Water Produced water, which is water extracted from an offshore well along with the oil, is a major source of marine pollution. 'Produced water comprises formation water which naturally occurs in the rock structure, water injected into the formation to aid in the extraction of the hydrocarbons, crude oil constitutes, natural and added salts, organic chemicals, solids and heavy metals'.[29] Produced water consists of a considerable proportion of 'the total fluid so process equipment has to be installed to separate it from the oil, and treat it for disposal, preferably in a water injection well'.[30]

6.3.1.4 Other Sources Other sources of pollution resulting from seabed activities include deck drainage, domestic waste, and the dumping of garbage into the marine environment. Deck drainage consists of lubricating oil from machinery, spilled mud and deck wash.[31] Domestic wastes which include the discharge of organic human waste, and liquid domestic waste may damage the marine ecosystem.[32] Finally the dumping of garbage into the marine environment by rig workers is another minor source of pollution which may contain some toxic chemical residue.

6.3.2 Pollution from Land Based Sources

Pollution from land based sources is the most common form of marine pollution,[33] accounting for around 75 percent of the pollutants in the sea.[34] It includes oil, sewage sludge and industrial wastes. One commentator states that pollution from offshore oil rigs is generally considered as land based pollution.[35] The 1974 Paris Convention for the Prevention of Marine Pollution from Land based Sources includes in the definition of land, artificial structures placed under the jurisdiction of the Contracting Party within the limits of the area to which the provisions of the Convention apply.[36] However, the 1992 Paris Convention for the Protection of the Marine Environment of the North Atlantic Sea excludes offshore installations from the definition of the land based sources of pollution.[37] Finally, the LOSC considers pollution from oil rigs as pollution from seabed activities and not as a land based source of pollution.[38]

6.3.3 Pollution by Dumping

Dumping, the definition of which includes the deliberate disposal of oil platforms at sea,[39] is a source of marine pollution. Oil platforms contain significant quantities of chemicals and waste which can cause damage to the environment. The question of dumping and the removal of offshore installations and its legal implications will be dealt with in a separate Chapter.

6.4 Applicable International Law

According to traditional international law, states are not under a duty to regulate pollution at sea although they are empowered to do so.[40] This was changed by the conclusion of the 1982 LOSC. Section 5 of the LOSC[41] obliges States to adopt laws and regulations in regard to different sources, including pollution from offshore oil installations.[42]

The international community has responded to marine pollution by concluding a number of global and regional conventions concerned with marine pollution. There are now more than 85 international conventions and other instruments related to marine pollution, liability and compensation for oil pollution and maritime safety.[43] However, there is no comprehensive international treaty which deals with pollution from offshore oil rigs.[44] Nonetheless, there are a few provisions in a number of international conventions which deal with the issue of pollution from the exploration and exploitation of seabed mineral resources. Since offshore operations in relation to the exploration and exploitation of oil are an expanding source of pollution, in recent years more attention has been placed on the regulation of pollution from offshore activities in international instruments.

6.4.1 International Customary Law and General Principles of Law

In searching for an answer to the question as to whether there is a customary obligation in international law, beyond the constraints of conventional rules, for states not to pollute the marine environment, two important points should be considered. Firstly, the issue of the prevention of marine pollution in international law is of recent origin, and therefore the customary obligation of international law appears to be vague and immature. Secondly, there is the question as to whether there is any general principle of law binding upon all states with respect to environmental pollution, particularly that which arises from offshore mining and drilling.

The most important principle, which may support an obligation in international customary law in relation to the marine environment, is the principle of sic utere tuo, ut alienum non laedas.[45] This means that states are not allowed to use their own territory in such a manner as to cause any damage to the territory of another state. This principle is supported by both the Charter of the United Nations and the General Assembly Declaration on Principles of International Law Concerning Friendly Relations and Cooperation Among States.[46] The Principle is also referred to in a number of cases, such as the *Corfu Channel*[47] and the *Nuclear Test Cases*,[48] and international documents such as the Charter of Economic Rights and Duties of States[49] and the LOSC.[50] The most notable reference to the Principle of sic utere tuo is made in Principle 21 of the 1972 Stockholm Declaration on the Human Environment:

> States have, in accordance with the Charter of the United Nations and Principles of international law... the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[51]

The Stockholm Declaration is not a legally binding document. However, it has attracted recognition as a rule of customary international law.[52]

The *sic utere tuo maxim* can be described as the foundation principle of customary and even conventional international environmental law,[53] and the basis of environmental protection and responsibility together with other principles of law. Nonetheless, it must be admitted that the sic utere principle is general and vague. Therefore, it is too uncertain to provide a precise obligation upon states to prevent marine pollution particularly because it lacks any indication with respect to compensation for environmental damage. However, this principle, together with other principles of law, can be the basis for the development of general principles potentially applicable to the problems of pollution from offshore operations.

Another principle of law which may be admitted as a legal basis for a rule of customary international law applicable to the protection of the marine environment is the principle of 'good neighbourliness'. This principle, enunciated in Article 74 of the UN Charter in relation to social, economic and commercial matters, has been interpreted as a rule promoting international environmental cooperation.[54] This principle has found extensive municipal application and has also been used in relation to international river law.[55] However, it is difficult to apply the principle of good neighbourliness in relation to the use of the seas.[56] Unlike the balancing of coastal interests in enclosed and semi enclosed seas, the determination of 'equitable sharing' of the uses of the ocean is very difficult.[57]

Beside the principles of good neighbourliness and sic utere two other doctrines were brought forward to provide a theoretical foundation for the protection of the environment in view of customary international law. The principle of custodianship, advanced by the Canadian delegation in the UN Conference on the Law of the Sea,[58] is one example. According to this theory, every state may be held responsible for polluting its own environment. In this view the environment is considered as a shared global commons.

It can be concluded that according to customary international law and the general principles of law, states are obliged not to harm the environment of other territories. However, the exact content of this doctrine remains unclear. This vagueness illustrates the importance of international environmental conventions in relation to control of the marine environment.

6.4.2 Global Conventions

6.4.2.1 The 1958 Geneva Conventions The 1958 Geneva Conventions on the Continental Shelf and High Seas provide certain basic rules in relation to the issue of pollution from offshore operations. Article 5(1) and 5(7) of the Continental Shelf Convention and Article 24 of the High Seas Convention laid down a number of provisions in relation to offshore operations and the marine environment. According to Article 5(7) the coastal State is required to undertake, in the safety zones around offshore installations, all appropriate measures for the protection of the living resources of the sea from harmful agents. Paragraph 7 of Article 7 was proposed by Yugoslavia at the 29th meeting of the Fourth Committee of UNCLOS I.[59] The representative of Yugoslavia stated that this proposal corresponded to the relevant provisions of the 1954 International Convention for the Prevention of Pollution of the Sea by Oil.[60] The provisions of Article 5(1) of the Continental Shelf Convention were taken from Article 71 of the International Law Commissions' draft Articles on the Law of the Sea which stated that the exploration of the continental shelf and the exploitation of its natural resources must not result in an unjustifiable interference with the conservation of the living resources of the sea.[61] Paragraph 2 of the ILCs' Commentary stated that the Article meant that 'everything possible should be done to prevent damage by exploitation of the subsoil, seismic exploration in connection with oil prospecting, and leaks from pipelines'.[62] According to Article 24 of the High Seas Convention 'every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil, taking account of existing treaty provisions on the subject'.

6.4.2.2 1982 Law of the Sea Convention The LOSC includes a separate section on the protection of the marine environment entitled 'Protection and Preservation of the Marine Environment'.[63] Section 1 which is entitled 'General Provisions' includes Articles 192-196. This section sets the general frame work for provisions of the LOSC concerning the preservation of the marine environment. Section 1 introduces a number of legal principles without 'imposing specific obligations or conferring quantifiable rights on States'.[64] Article 192 of the Convention obliges all States to protect and preserve the marine environment from any source of pollution. This Article has two sections. These are protection[65] and preservation of the marine environment. Therefore, the thrust of Article 192 is not only concerned with the prevention of prospective damage to the marine environment but also extends to the preservation of the marine environment.[66] The expression 'protection and preservation of the marine environment' used in Article 192 was recommended by the Drafting Committee at the resumed 8th session of the UNCLOS III in 1979.[67] The general obligation under Article 192 is subject to other specific rights and duties in the Convention.[68]

The issue of pollution from offshore oil rigs is addressed by the LOSC in Articles 145(a), 194(3)(c), 194(3)(d), 208(1), 209(2) and 214. Article 145 deals with the issue of the protection of the marine environment in the Area. It obliges the Authority to adapt appropriate rules, regulations and procedures for the prevention, reduction and control of pollution and other hazards to the marine environment from the operation or maintenance of installations.[69] According to Article 194, measures should be taken to minimise to the fullest possible extent:

> pollution from installations and devices used in exploration and exploitation of the natural resources of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operation at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.[70]

Paragraph 3(c) of Article 194 uses the phrase 'installations or devices'. The use of different terms to describe offshore installations does not make any substantial difference for the purposes of the Convention.[71] It has been said the use of the word 'installations' in different contexts appears to signify something of a more permanent character.[72] However, this statement does not seem to be compatible with the purpose of the LOSC for two reasons. Firstly, the Convention in using different terms to describe 'offshore installations', never referred to fixed installations. Secondly, the LOSC's provisions in relation to offshore installations does not have any character which can only be related to fixed installations. For example as much as a fixed oil platform may pollute the marine environment, a mobile rig, while involved in drilling activities, may do the same. Therefore, the provisions of the LOSC do not appear to be applicable to something of a more permanent character.

The Convention directs coastal States to establish global and regional rules and adapt national laws and regulations in relation to pollution from seabed activities.[73] The LOSC considers pollution from oil installations as pollution from seabed activities.[74] Article 208 of the Convention requires the coastal States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from artificial islands, installations and structures under their jurisdiction, pursuant to Articles 60 and 80.[75] Furthermore, States shall also take necessary measures to prevent, reduce and control such pollution.[76] Article 208 is complementary to Article 194(3)(c). The provisions of Article 208 are limited to those parts of the sea which are subject to the jurisdiction of the coastal State (internal waters, territorial waters, archipelagic waters, continental shelf and the EEZ). The

provisions of Article 208(1) correspond to Article 5 of the 1958 Continental Shelf Convention and Article 24 of the High Seas Convention both of which express that seabed activities should not pollute the marine environment.

The issue of protecting the marine environment from seabed activities was discussed again in the sessions of the Seabed Committee of UNCLOS III. In the early sessions of the Seabed Committee (from 1971 to 1973), the draft articles proposed by States did not contain any reference to offshore installations and artificial islands. The proposals referred to the 'pollution of the marine environment resulting from the exploration and exploitation of the seabed area'.[77] In 1974, at the second session of the Conference, draft articles, submitted by ten states,[78] included an article, which read:

> 1. Within the zone (the EEZ), the coastal State shall have jurisdiction, in accordance with these articles, to establish and adopt laws and regulations and to take administrative and other measures in respect of the activities of all persons, natural and juridical vessels, installations and other entities for the purposes set out in Article 6.
> 2. The coastal State shall have the right to enforce in the zone laws and regulations enacted in accordance with paragraph 1 of this article.
> 3. (a) In respect of pollution of the marine environment from land based sources and from installations or devices engaged in the exploration and exploitation of the natural resources of the seabed and subsoil, the laws and regulations of the coastal State shall take into account internationally agreed rules, standards and recommended practices and procedures.[79]

In this draft article, offshore installations were referred to for the first time. Paragraph 3.(a) of the draft article refers to 'internationally agreed rules, standards and recommended practices and procedures'. These provisions were later incorporated into paragraph 3 of Article 208 of the LOSC. This paragraph provides that such laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures.[80]

In 1975 at the third session of the UNCLOS III, a group of nine States[81] proposed a number of draft articles concerning the prevention and control of marine pollution. Article 2 of the draft referred to marine pollution arising in connection with seabed activities and 'installations under the jurisdiction of the coastal State'.[82] This article, as well as the draft articles submitted by ten States,[83] refers only to installations under the jurisdiction of the coastal State. However, in 1975 in an informal meeting, three States[84] proposed a modification to the proposed texts and added a phrase to 'marine pollution resulting from the exploration and exploitation of the seabed under their jurisdiction' to include 'any other activities taking place in that area'.[85] Again at the 7th session in 1978 Brazil submitted an informal proposal in which

the coastal States were obliged to establish laws and regulations to control pollution of the marine environment 'arising from or in connection will all activities, artificial islands, installations and structures in the seabed under their jurisdiction'.[86] The representative of Brazil, at the 35th meeting of the Third Committee,[87] argued that the article, in its present form, is only related to those installations referred to in Articles 60 and 80; and therefore, it did not cover all activities on the seabed area. After a prolonged series of informal negotiations the Brazilian proposal was not accepted.[88] It appears that the decision not to accept the Brazilian proposal was logical. Because, as noted in Nandan and Rosenne's' Commentary,[89] Article 56 of the LOSC not only gives jurisdiction to the coastal States over all installations in the EEZ but also gives general jurisdiction to the coastal State with respect to 'the protection and preservation of the marine environment'.[90] This means that the coastal State does have jurisdiction over all activities on the seabed of its EEZ concerning the protection of the marine environment.

From the negotiations of the UNCLOS which led to the conclusion of Article 208 of the LOSC we may conclude that: firstly, there is no doubt that, by virtue of Articles 208 and 56 of the LOSC, the coastal States have jurisdiction over all installations, artificial islands and activities related to the exploration and exploitation of the seabed of their EEZ and the Continental shelf; secondly, offshore oil rigs, which are the largest part of 'installations' used in Article 208 are treated similarly to all other installations and artificial islands. It is notable from the negotiations that by the end of the UNCLOS more attention was placed on the status and legal issues relating to offshore oil rigs. This is a result of the fact that the number of such installations and seabed activities as a whole has increased significantly in recent years.

Although, the provisions of Article 208 clearly oblige the coastal State to take measures and adopt laws and regulations to control and prevent pollution from offshore oil installations under its jurisdiction, the nature of these provisions is not entirely clear. The adoption of measures, laws and regulations by the coastal State with respect to the installations in its territorial sea, the continental shelf and the EEZ, which are concerned with the jurisdiction and rights of the coastal State, is not likely to lead to any disputes. However, any measures and laws which concern themselves with the rights and duties of other States may be a matter for dispute. Therefore, the taking of measures and adoption of laws and regulations by the coastal States with respect to oil rigs owned or operated by States other than the coastal State, can be a matter of dispute depending on the nature of those measures and laws. For example, as a coastal State can enter into agreements with other States in relation to the exploration of the seabed and the exploitation of its natural resources, the taking of any measures or posing of any laws which may conflict with the rights of the contracting non coastal State which has established oil installations on the continental shelf and the

EEZ of the coastal State could easily lead to controversy. Furthermore, measures taken by the coastal State may also conflict with the right of navigation on the continental shelf and the EEZ.[91] The LOSC is silent on the nature and scope of a coastal State's right to take measures and adopt laws and regulations. This needs to be addressed in more detail in future treaties relating to the law of the sea.

It should be noted that according to the 1994 Agreement on the Implementation of Part XI (the New York Agreement) a plan of work on the international seabed area must be 'accompanied by an assessment of the potential environmental impacts of the proposed activities and by a description of a program for oceanographic and baseline environmental studies in accordance with the rules, regulations and procedures adopted by the Authority'.[92] This represents progress in relation to the protection of the environment in the Area by the Agreement. However, although the issue of environmental considerations was one of the nine issues under consideration during the first phase of the Informal Consultation in 1990-1991, it was removed from the list of hard core issues in 1992.[93]

The LOSC purported to establish a comprehensive worldwide framework in order to protect the marine environment. Compared with previous global Conventions, such as the 1958 Geneva Conventions on the Law of the Sea, the LOSC has dealt more effectively with the issues inherent in pollution and the marine environment, in particular those relating to environmental matters consequent to offshore operations and oil rigs used for the purpose of the exploration and exploitation of hydrocarbons from the sea. For example, the 1958 Convention on the Continental Shelf hinted at the issue of environmental damage resulting from offshore operations, only in the narrow sense of interference with the conservation of the living resources of the sea,[94] whereas the LOSC devotes an entire Part to the marine environment.

However, the LOSC lacks a developed procedure for the enforcement of the relevant international rules in respect of the environmental issues generated by offshore operations. It also fails to determine definitive guarantees for the protection of coastal States whose environment has been polluted as a result of offshore activities.

6.4.2.3 Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), as amended in 1978, 1980, 1989, 1993 and 1996, obliged the Contracting Parties, individually and collectively, to promote the effective control of all sources of pollution of the marine environment, and to pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that may harm marine life.[95] Dumping, for the purpose of the Convention, is defined as the

deliberate disposal at sea of wastes or matter from platforms or other man-made structures at sea, aircraft and vessels.[96] 'Dumping' also includes any deliberate disposal of oil platforms at sea.[97] Since the only section of this Convention which is relevant to the nature of this study is the dumping at sea of oil platforms, the relevant provisions are discussed in Chapter 7.

6.4.2.4 IMO Guidelines The International Maritime Organisation (IMO) has produced a number of recommendations and resolutions concerning pollution caused by offshore platforms. In 1979 a recommended Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU)[98] was produced by the IMO. This recommendation was intended to provide international regulations with respect to the technical matters of offshore installations. The MODU Code was revised in October 1989 and came into effect on 1 May 1991.[99] The Code is not mandatory but a number of States have applied it.[100]

6.4.2.5 The 1990 International Convention on Oil Pollution Preparedness, Response and Cooperation The 1990 International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC)[101] requires State Parties to take all appropriate measures, based on the provisions of the article to prepare for and respond to oil pollution incidents. The Convention expressly covers oil pollution from offshore oil rigs. The Convention refers to oil pollution from an 'offshore unit', which is defined as 'any fixed or floating offshore installation or structure engaged in gas or oil exploration, exploitation or production activities, or loading or unloading of oil'.[102] Operators of offshore units have an obligation to formulate oil pollution emergency plans.[103] Persons in charge of offshore units must report any event involving a discharge of oil.[104] A State Party may take action on receiving an oil pollution report.[105] The Convention further refers to the establishment of national and regional systems for preparedness and response,[106] international cooperation in pollution response,[107] cooperative research and development and traditional cooperation.[108] Parties to the Convention agree to enter into bilateral or multilateral treaties for oil pollution preparedness and response.[109] The IMO, subject to its agreement, is designated to perform various functions in relation to information services, education and training, technical services, and technical assistance.[110]

The OPRC is the most important international treaty that addresses the issue of pollution from oil rigs in an efficient manner. The Convention defines 'offshore units' to include all mobile and fixed oil rigs. It then provides a number of specific provisions in relation to pollution from offshore oil rigs. Furthermore, pollution from activities related to oil rigs, such as loading and unloading, is as covered. The Convention urges

operators of oil rigs to have emergency plans in place.

In comparison with other international conventions, either global or regional, the OPRC is the most efficient one in dealing with the issue of pollution from offshore oil rigs. It refers to oil installations, defines them and obliges State Parties to have emergency plans in place for accidents on board oil rigs under their jurisdiction. The pattern of the OPRC has to be seriously considered by other international and regional treaties dealing with pollution resulting from offshore oil activities. The approach of the OPRC can be improved by dealing with oil platforms in more detail, specifying the kind of oil pollution emergency, defining precisely the meaning of fixed and floating installations, and distinguishing them from ships and imposing a civil responsibility on a State if its platforms pollute the marine environment. In comparing the OPRC with the LOSC, it is notable that the former covers the issue of pollution from oil installations in greater detail. The LOSC only places on obligation on the coastal States to adopt laws for the control of pollution of the marine environment arising from offshore installations, whereas, the OPRC in extended detail requires States Parties to take appropriate measures for prevention of pollution from oil installations. Indeed, the OPRC specifies the types of measures, such as oil pollution emergency plans, which must be taken. The reason behind this step forward appears to be the fact that 8 years after the conclusion of the LOSC the rate of offshore oil production increased significantly, and subsequently pollution from offshore activities in 1990 was a far more important issue than it was in 1982.

6.4.3 Regional Conventions

6.4.3.1 Paris Convention The 1974 Convention for the Prevention of Marine Pollution from Land based Sources is one of the earliest conventions which covers certain aspects of pollution from oil rigs. The Convention defines 'pollution from land based sources' as pollution of the marine area through watercourses from the coast, including the introduction through underwater or other pipelines, and from man-made structures placed under the jurisdiction of a Contracting Party within the area of the application of the Convention.[111] Therefore, the Paris Convention includes, to some degree, pollution from offshore oil and gas platforms.

The Paris Convention established a Commission to supervise the overall implementation of the Convention.[112] The Commission was to adapt measures for the reduction or elimination of pollution from land based sources and to advance scientific research and monitoring.[113]

In 1978 the Paris Commission recommended that only waste or used oils and waste may be classified as 'blacklist'[114] and other types of hydrocarbons should appear as 'greylist'[115] substances.[116] The Commission also decided to classify the pollution into four groups, based on its source; offshore oil and gas production platforms; oil refineries; oil waste reception facilities; and, other sources of oil pollution from land based sources.[117] As illustrated, the Commission has shown an increasing tendency to make recommendations in relation to pollution from offshore platforms. This new interest of the Paris Commission appeared in its practical expression in the form of the International Conference on the Protection of the North Sea. At the International Conference on the Protection of the North Sea on 1 November 1984 in Bremen, the application of the best available technology was suggested as a means for preventing oil pollution from offshore oil rigs.[118] In the London Declaration, adopted after the second INSC on 24 and 25 November 1987, the use of oil-based mud and chemicals was to be restricted[119] and perfected technology techniques were to be employed in order to reduce the environmental impact of discharged cuttings.[120] However, the London Declarations were not legally binding and created no obligations for the parties to the Paris Convention. This means that failure to cooperate with the instructions given to the Paris Commission in the London Declaration cannot create any international responsibility for states. The non-binding character of the London Declaration does not, however, affect the obligation of a state to carry out its duty in good faith.[121] A series of decisions, implementing the recommendations of the London Declaration were made by the Paris Commission. According to a Decision of the Commission, the use of oil-based mud is subject to prior licensing by the competent coastal authority, and the use of diesel-based mud is prohibited.[122]

The International Conference on the Protection of the North Sea Declaration of the Hague on 8 March 1990 required the Paris Convention to coordinate the development of national plans in relation to the prohibition of discharges of oil contaminated cuttings. Its intention was to fashion a total prohibition of oil discharges from exploration by 1994 in order to create a regulatory framework for the oil content of production and the use of chemicals from offshore oil rigs.[123] The 1992 North-East Atlantic Convention[124] provided certain regulations for the prevention and elimination of pollution from offshore operations, and requested the contracting parties to consider all methods possible for the purpose of pollution control from offshore sources.[125] The Convention also empowered the Commission to take steps to regulate 'the use on, or the discharge or emission from, offshore sources of substances which may reach and affect the maritime area'.[126] This can be accomplished by the collection of information in relation to all relevant substances and the requirement of prior authorisation in order to reduce and prevent the use of toxic materials.[127]

The Paris Commission continued to regulate offshore operations to reduce, control and finally prevent pollution arising from drilling and

production activities. In 1992 it was decided that oil based muds which contain an average limit of 10 grams of oil per kilogram would be permitted for dry cuttings applicable for exploration and appraisal drilling from December 1993, and for other offshore operations, no later than December 1996.[128] It was also recommended that the Best Available Technology should be used for the management of produced water on offshore gas and oil platforms.[129]

The relationship between the International Conference on the Protection of the North Sea and the Paris Commission, although non-binding, is a process by which a group of states[130] could utilise a more effective legal regime which could help them to cope with the different environmental issues in their region.[131] The same process in other regions, and even on an international level, could be an excellent example of both regional and international cooperation, in particular, with respect to the reduction and prevention of oil pollution from offshore oil rigs.

6.4.3.2 OSPAR Convention According to the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic,[132] parties[133] to the Oslo and Paris Convention (OSPAR),[134] are required to prevent pollution from offshore sources and comply with the rules set out by the Convention.[135] The term 'offshore sources' is defined by the Convention as 'offshore installations and pipelines from which substances or energy reach the maritime area'.[136] 'Offshore installations', according to the Convention, means 'any man-made structure, plant or vessel or parts thereof, whether floating or fixed to the seabed, placed within the maritime area for the purpose of offshore activities'.[137] The term 'offshore activities' is defined as 'any activities carried out in the maritime area for the purposes of the exploration, appraisal or exploitation of liquid and gaseous hydrocarbons'.[138] Therefore, Article 5 of the OSPAR Convention, clearly obliges the contracting States to take all possible steps to prevent and eliminate pollution from offshore installations for the purpose of exploration of the seabed and exploitation of its natural resources. Although, the Convention defines the term 'offshore installations' to include 'any vessel placed within the maritime area for the purpose of offshore activities',[139] the term 'vessel' itself is defined separately as any 'air-cushion craft, floating craft whether self propelled or not, and other man-made structures in the maritime area and their equipment, but excludes 'offshore installations''. This means that the word 'vessel' used in the definition of 'offshore installation' refers to drilling ships and mobile oil rigs which may be considered as ships. Article 5 of the Convention, which addresses the responsibility of the contracting parties to prevent and eliminate pollution from offshore sources, obliges the parties to comply with the provisions provided in Annex III of the Convention. According to Annex III the use of, or discharge or emissions of substances

which may affect the marine area from offshore sources are not prohibited but are strictly subject to authorisation or regulation of the competent authorities of the Contracting Parties.[140] This appears to be a reference to certain substances, such as drilling mud, which are an essential requirement for drilling operations.

The Convention prohibits the dumping of waste or other matter from offshore installations.[141] It also prohibits the dumping of disused, wholly or partly, offshore installations in the sea without a permit issued by the competent authority of the relevant Contracting Party.[142] Annex III of the Convention also includes certain rules on placement, compliance, sovereign immunity and the role of the OSPAR Commission.[143]

The OSPAR Convention clearly obliges the Contracting Parties to control and prevent pollution from offshore oil installations and from activities related to the exploration and exploitation of natural resources of the sea. The Convention defines 'offshore installation' to include both types of mobile and fixed oil rigs. Annex III of the Convention specifically sets provisions with respect to pollution from oil installations and the disuse and dumping of installations. The emphasis of the Convention on pollution from offshore activities and oil rigs could be based on the fact that most Contracting States to the OSPAR Convention are neighbouring countries in the North Sea. This sea is one of the most important areas in which offshore oil and gas exploration and exploitation is undertaken. The European countries' advanced technology and their wealth has made it possible for them to exploit oil and gas of the seabed area of the North Sea on a high scale. This has created a number of environmental problems for the marine environment of the region. The provisions of the OSPAR Convention are a reasoned response to the environmental issues related to the increasing use of offshore oil and gas installations in the North Sea. The 1992 OSPAR Convention, like the 1989 Kuwait Exploration Protocol, the 1994 Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, and the 1992 Baltic Convention,[144] contains a number of provisions related to the prevention of pollution resulting from the exploration and exploitation of offshore resources. This is partly as a result of the recent origin of both the OSPAR and the related Conventions and Protocols. In fact the increase in the rate of offshore oil and gas production began significantly after the 1980s. Therefore, in 1992, when the OSPAR Convention was concluded, the issue of offshore pollution resulting from the exploration of the seabed and the exploitation of its natural resources was sufficiently important to be addressed by the Convention.

6.4.3.3 The 1976 Barcelona Convention The Convention for the Protection of the Mediterranean Sea against Pollution is a very significant regional

convention. Around the Mediterranean Sea, there are 21 distinct coastal states over three continents with different economic and political systems.[145] In addition, the exploration and exploitation of the natural resources of the Mediterranean Sea has increased in recent years.[146] The Convention obliged the Contracting Parties to 'take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil'.[147] The Convention has adopted five protocols including the Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil.[148] The Protocol provides that coastal states where offshore activities are being carried out or envisaged in their jurisdiction should take the necessary measures regarding design, construction, placement, equipment, marking, operation, and maintenance of offshore installations.[149] The installations should be equipped, devised, and maintained in good working order to prevent and combat accidental pollution and facilitate prompt response to emergency situations.[150] The coastal state should require the operator to measure the effects of the activities on the environment and to report on them periodically or upon request, for the purpose of an evaluation of such competent authority.[151] The Protocol also includes certain provisions in relation to the removal of offshore platforms.[152] Finally, the Protocol includes certain provisions concerning contingency planning,[153] use of harmful or noxious substances,[154] disposal of oil and oily mixtures from installations[155] and liability and compensation.[156]

The Protocol for Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil is a very important treaty which includes a large number of regional countries and covers a considerable marine area between three continents with an increasing potential for offshore natural resources. The Protocol almost comprehensively covers different issues concerning the protection of the marine environment from offshore operations.[157] It also deals with the different environmental issues concerning oil rigs including technical aspects which may affect the marine environment. Finally, the Protocol attempts to maintain a reasonable balance between the protection of the environment and the development of offshore industry requirements.

6.4.3.4 The 1978 Kuwait Regional Convention The Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution[158] obliges the contracting parties to take 'all appropriate measures to prevent, abate and combat pollution in the Sea Area resulting from exploration and exploitation of the bed of the territorial sea and its sub-soil and the continental shelf, including the prevention of accidents and the combating of pollution emergencies resulting in damage to the marine

environment'.[159] It includes three Protocols, one of which is the 1989 Kuwait Protocol concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf[160] (hereafter the Kuwait Exploration Protocol). This Protocol is the first United Nations Environmental Program (UNEP) document concerning offshore pollution.[161] It followed a set of guidelines on the prevention of pollution from offshore mining and drilling prepared by UNEP.[162]

The Protocol obliges contracting States to institute the measures necessary for the prevention and control of marine pollution in the area of the Persian Gulf and the Gulf of Oman taking into account 'the best available and economically feasible technology'.[163] The contracting States must also take all appropriate measures for the prevention of pollution from offshore operations under their jurisdiction.[164] An environmental impact assessment must be requested by the Competent State Authority prior to licensing any offshore operation.[165] Article VII of the Protocol deals with technical requirements for safety and proper maintenance of offshore operations. It directs operators to have available to their offshore installations proper equipment and devices to reduce the risk of accidental pollution and 'to facilitate prompt response to a pollution emergency, in accordance with good oilfield or other relevant industry practice'.[166] The conditions required by Article VII may be considered as a viable alternative to a liability provision which does not exist in the Protocol.[167] The oil discharges from offshore rigs, drilling muds and fluids are regulated in Article IX. According to Article IX of the Protocol:

> Oil-based drilling fluids shall not be used in drilling operations in those parts of the Protocol Area within its jurisdiction except with the express sanction of the Competent State Authority. Such sanction shall not be given unless the Authority is satisfied that the use of such a fluid is justified because of exceptional circumstances. If such fluid is used, the drill cuttings shall be effectively treated to minimise their oil content before being appropriately disposed of. Any wash water shall not be discharged at any place from which they may be carried to mix with the same drill cutting. The discharge point for the cutting shall, as appropriate, be well below the surface of the water.[168]

The disposal and dumping of plastics, food wastes and all other garbage is prohibited.[169] Finally, special attention is given to the use of chemicals in offshore operations. It is the obligation of an offshore installations' operator to prepare and submit a 'Chemical Use Plan' for approval by the Competent State Authority.[170]

The Kuwait Regional Convention and its Exploration Protocol is an important regional treaty with substantial international significance. The Persian Gulf is the most significant oil rich region in the world supplying

almost 60 percent of the oil required by industrial nations.[171] Surrounded by eight independent States[172] with a population of almost 120 million the Persian Gulf is one of the most polluted seas in the world. Regardless, drilling activities and offshore oil production are increasing considerably.[173] The area has also been ravaged by war and uncertainty as it was the location of two wars in a single decade, both of which also created environmental disasters in the Gulf.[174] However, the application of the Kuwait Convention and its Exploration Protocol runs smoothly. The cultural and legal homogeneity of the States in the region and the lack of financial problems are both important factors. Nonetheless the Persian Gulf is still one of the most polluted seas in the world. This is based partly on two facts: firstly, there are a number of international disputes between coastal countries of the Persian Gulf which have led to wars,[175] legal disputes and diplomatic tensions[176]; secondly, public opinion in the region is not concerned about the environment as much as other areas, particularly Europe, North America and Australia.

6.4.3.5 The 1974 and 1992 Baltic Conventions The 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area[177] was intended to create regulations to 'prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea Area'.[178] The Convention provides that coastal states shall take 'all appropriate measures' to prevent pollution arising from operations on the seabed of the Convention area.[179] Discharge of oil and waste material from offshore oil rigs is regulated under Annex III of the Convention.[180] Fixed and floating oil rigs are subject to the same or similar provisions as ships in relation to the prevention of pollution from ships because the Annex III defines 'ships' to include 'fixed and floating platforms'.[181] The Convention provides that fixed and floating drilling rigs which are engaged in the exploration, exploitation and associated offshore processing of seabed minerals, resources and other platforms must comply with the requirement of Regulation 4 of Annex III of the Convention applicable to ships of 400 tons gross tonnage and above, other than oil tankers.[182] In the Baltic Sea Area any discharge into the sea of oil or oily mixture from any oil tanker and any ship of 400 tons gross tonnage and above, other than an oil tanker, is prohibited.[183] Therefore, when oil rigs are not engaged in the exploration and exploitation of oil and gas they are subject to the regulations applicable to ships. However, when they are engaged in the exploration and exploitation of oil from the seabed then they are subject to the provisions of the Conventions applicable to ships of 400 tons gross tonnage or more. Any discharge of oil from both ships of 400 tons gross tonnage and above, and ships of less than 400 tons gross tonnage, is prohibited. However, there is an exception in relation to ships of less than 400 tons gross tonnage. When the oil content of the effluent without dilution does not exceed 15 parts per million, the ban on the discharge of oil from ships is lifted.

The 1974 Baltic Convention is to be replaced by the 1992 Baltic Convention.[184] It has been said that the 1974 Convention did not prevent massive pollution of the Baltic Sea and therefore was unsuccessful.[185] Although there are no substantial changes in the 1992 Baltic Convention six existing Annexes have been amended and a new Annex has been added which deals with the prevention of pollution from offshore operations. The additional attention paid to the regulation of offshore activities is a significant feature of the 1992 Convention. The exploration and exploitation of the resources of the seabed requires an Environmental Impact Assessment.[186] The use of drilling and oil-based muds is regulated and their discharge into the marine environment is prohibited.[187]

6.4.4 Evaluation of Global and Regional Treaties

6.4.4.1 Global Treaties The 1958 Continental Shelf and the High Seas Convention, the 1982 LOSC, the 1972 London Convention and the 1990 OPRC are the international treaties that cover the issue of pollution from oil rigs. The 1958 Conventions' position on the issue of pollution from offshore structures is very brief. They oblige the coastal States to take appropriate measures for the protection of living resources of the sea and to prevent pollution of the seas by the discharge of oil from seabed activities.

The LOSC although expressed in general terms, covers more specifically the issue of pollution from oil installations in a number of articles including Article 208. The issue of pollution from offshore oil rigs in the LOSC is a part of the general issue of the protection and preservation of the marine environment regulated in Part XII of the Convention. Compared with the 1958 Geneva Conventions, the LOSC dealt more effectively with the issue of pollution from oil rigs. However, the approach of the LOSC lacked a detailed procedure for enforcement of the rules which it provided. It also does not mention the extent of the rights of coastal States when their marine environment has been polluted by the offshore activities of other States.

The 1972 London Convention covers two issues which are related to offshore oil installations. These are disposal at sea of wastes from platforms, and the deliberate disposal of oil platforms at sea. Generally, the London Convention is concerned with the dumping at sea of waste and materials including oil platforms. In 1996 a Protocol to the London Convention covered the issue of dumping oil rigs at sea in a more efficient manner.[188]

The 1990 OPRC is the international treaty which covers the issue of pollution from oil platforms in the most efficient manner thus far. In the first instance, this Convention defines an oil platform to include both mobile and fixed oil rigs. It then obliges the operators of oil platforms to create oil

emergency plans. This is in fact, the significance of the 1990 OPRC. The Convention, instead of providing general guidelines for the prevention of pollution from installations, provides practical guidelines by urging the operators of oil platforms to prepare oil emergency plans. This can significantly reduce the chance of oil pollution from offshore oil rigs. It further obliges States to make provisions for the actions to be taken by State Parties upon receiving on oil pollution report, and the establishment of national and regional systems for preparedness and response. These examples of the OPRC's practical approach demonstrates that the Convention covers the issue of pollution from offshore oil rigs in a fair and efficient way.

6.4.4.2 Regional Convention Generally, regional treaties cover the issue of pollution from oil installations in more detail and with a more efficient approach than international conventions. The 1958 Geneva Convention on the Law of Sea, the 1982 LOSC and the London Convention take a very general approach to pollution from oil rigs, whereas regional treaties provide detailed provisions with respect to pollution from seabed activities and offshore installations. The reason behind this difference appears to be the fact that international treaties are concluded with a worldwide view to the issue of pollution of marine environment. Therefore, the issue of pollution from offshore installations, which is a significant but small source of pollution, is considered as only a part of the more significant issue of the pollution of the marine environment. However, regional treaties, discussed here, are primarily related to those areas which are major offshore oil producers, including the Paris Convention, the OSPAR Convention and the Kuwait Convention. These treaties cover the issue of pollution from seabed activities in more detail. The 1992 OSPAR Convention, which is an updated version of the 1972 Oslo and the 1974 Paris Conventions, refers to 'offshore resources' and defines the term to include 'offshore installation'. The Convention does not make any differentiation between ships and platforms. The OSPAR Convention covers the issue of pollution from seabed activities very well. The Convention in its Annex III sets out provisions which cover the issue of pollution from oil installations. Similarly, other regional conventions, namely the 1994 Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Convention Shelf and the Seabed and its Subsoil, the 1992 Baltic Convention and the 1989 Kuwait Convention, all cover the issue of pollution from oil rigs.

A concluding remark in relation to an evaluation of the global and regional conventions is that these treaties, both regional or global, which were concluded after the early 1990s, such as the 1990 OPRC and the 1992 OSPAR Convention, cover the issue of pollution from offshore installations in greater detail and in a more efficient manner than those treaties which were concluded previously. This would mean that in the future, the issue of pollution from offshore oil installations will be high on the agenda for regional and global conventions which relate to the marine environment. An example is the 1996 Protocol to the London Convention.[189]

6.5 International State Responsibility

It is not intended here to examine in detail the issue of State responsibility in relation to environmental harm.[190] In this study only those aspects of international State responsibility which are directly related to pollution from offshore oil rigs will be discussed.

In international law State responsibility is traditionally concerned with the treatment of aliens and their property.[191] It has been said that States are under a fundamental obligation not to pollute the environment and therefore it has now been accepted that there exists a general principle of responsibility for environmental harm.[192]

In the *Trail Smelter* arbitration, it was recognised that States may be held responsible for the causation of environmental damage in the territory of other states.[193] In this case the Arbitration Tribunal held that 'under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[194] Similar positions can be found in the *Corfu Channel*[195] case and the *Lake Lanoux*[196] arbitration.

At the Third UN Conference on the Law of the Sea, (UNCLOS III), a number of proposals submitted by different States illustrated that in general States have a tendency to accept responsibility for environmental harm caused to the territory of another State.[197] However, as we will see below adoption of a strict liability standard was not accepted.

Article 194 of the LOSC obliges States to take all necessary measures 'to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by polluting other States and their environment ...'.[198] Similar expressions can be found in the UN Charter of the Economic Rights and Duties of States,[199] the 1972 London Convention[200] and the Stockholm Declaration on the Human Environment.[201] Article 194 of the LOSC sets out the general rule binding a State not to cause damage to the marine environment of other States. Similarly, Section 5 of Part XII (Article 207-212) of the LOSC sets the specific rules in relation to the responsibility of States to order laws and regulations for the prevention and control of pollution including pollution from offshore activities. It is understood from

the preparatory works of the UNCLOS that the Conference 'give credence to that contention as all proposals suggesting the adoption of a strict liability standard were rejected'.[202]

Turning now to oil rigs, the primary question is which State is responsible when the operation of an offshore oil rig operated by a State or its organ and/or representative, on the continental shelf of another State results in harm to the marine environment of that other State. A legal question may also arise as to who is responsible if the offshore oil rig which caused the pollution is owned and operated by a private company. This issue may be addressed in two ways: firstly, who is responsible if the operator of the oil rig is a national of a third country, and this oil rigs causes environmental damage on the continental shelf or the EEZ of the coastal State to the marine environment of another country; secondly, who is responsible internationally when a national of another country, working as an operator of an oil rig, causes damage to the marine environment of the coastal State.

In the first instance, the responsibility lies with the State on whose continental shelf or EEZ a pollution incident occurs as a result of the operation of an oil rig. The coastal State has jurisdiction over its own continental shelf and EEZ. Therefore, the coastal State, under whose jurisdiction the exploration and exploitation took place, is internationally responsible to prevent oil pollution in the interest of other States whose environment may be damaged by oil.[203] This is also compatible with the provisions of Article 194 (2) of the LOSC which holds the coastal State responsible for pollution from activities under its jurisdiction.[204]

In the second situation, when a national of a foreign State causes damage to the marine environment of the coastal State while involved in offshore activities, the State whose national has caused the damage is responsible. In the *Trail Smelter* Case Canada was held liable for the operations of a privately owned smelter.[205] In accordance with Article 139 of the LOSC, a State has responsibility for the activities in the Area carried out by natural or juridical persons who possess its nationality, if the State has taken 'all necessary and appropriate measures to secure effective compliance' with the provisions of the Convention.[206] The relevant provisions of the Convention include the rules laid down in Article 153(4).[207]

It can be concluded here that State responsibility in relation to environmental harm caused by the emplacement and operation of oil rigs is considered as a part of the general issue of State responsibility concerning harm to the environment of other countries. The traditional principles of international law which concluded in the work of the ILC, the decision in Trial Smelter Case, and the provisions of the LOSC all confirm that a State may be held responsible for harm caused to the environment of other countries from within their territories, including from the areas under their jurisdiction, or by their nationals.

6.6 Civil Liability for Environmental Harm Resulting from Petroleum Production from Oil Rigs

The area of civil liability and compensation for marine pollution is generally covered by customary international law.[208] This liability is based mainly on the principle of objective responsibility.[209] This principle has been followed by the International Court of Justice,[210] state practice, and the arbitration tribunals.[211]

There is no effective international regime in relation to liability and compensation resulting from offshore platforms in international law. There are certain international treaties covering liability for offshore platform pollution, but these are mainly regional. Liability provisions in relation to offshore installations exist in the Nordic Convention, the 1976 Liability Convention.

6.6.1 LOSC

The provisions of the LOSC in relation to the civil liability of a State provide general guidelines for compensation in respect of damage caused by pollution to the marine environment. Article 235 of the Convention provides:

> 2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.
> 3. With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.[212]

The same doctrine was adopted in relation to the basic conditions of exploration and exploitation of the seabed area. Both the contractor and the Authority shall have responsibility or liability for any damage arising out of wrongful acts in the conduct of the operation or in the exercise of powers and functions.[213]

Article 235 of the LOSC is based on two principles adopted by the United Nations Conference on the Human Environment (the Stockholm Conference) in 1972.[214] Principle 22 of the Stockholm Declaration provides:

> States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction.[215]

Principle 7 of the General Principle for Assessment and Control and Marine Pollution endorsed by the Stockholm Conference, states:

> States should discharge, in accordance with the principle of international law, their obligation towards others States where damage arises from pollution caused by their own activities or by organizations or individuals under their jurisdiction and should cooperate in developing procedures for dealing with such damage and the settlement of disputes.[216]

A number of proposals were made at the 1973 Session of the Seabed Committee at UNCLOS III in relation to the questions of responsibility, liability and compensation. The United States of America proposed a draft article as follows:

> 2. States shall undertake, as soon as possible, jointly to develop international law regarding liability and compensation for pollution damage including, inter alia, procedures and criteria for the determination of liability, the limits of liability and available defences.
> 3. In the absence of other adequate remedies with respect to damage to the marine environment of other States caused by activities under the jurisdiction or control of a State, that State has the responsibility to provide recourse for foreign States or nationals to a domestic forum empowered:
> (a) to require the abatement of a continuing source of pollution of the marine environment, and
> (b) to award compensation for damages.[217]

The current text of Article 235 was accepted after extensive negotiation. This text was included verbatim in the Informal Composite Negotiating Text, Revision 1 in 1979.[218]

Paragraph 2 of Article 235 obliges States to provide recourse in their national law with respect to damage caused by pollution of the marine environment by persons under their jurisdiction. This Paragraph corresponds to Articles 229 and 232.[219]

Paragraph 2 does not include cases in which damage was caused by a State rather than individuals. Paragraph 3 of Article 235 is complementary to Article 304.[220]

Therefore, it may be said that a State is liable for pollution damage to the marine environment caused by offshore oil rigs established under its jurisdiction and control. Indeed, the LOSC does not cover the issue of civil responsibility for pollution damage as a result of the operation of oil rigs in another section. However, the issue of civil liability resulting from the operation of oil rigs should not be confused with the issue of civil jurisdiction in relation to the people on board oil rigs. This issue was discussed in Chapter 4.

The provisions of the LOSC seem very wide as they address the protection of the marine environment as a whole. These provisions do not specify either the cause of the pollution or the limitation of the sea area for which a State is responsible. However, the general formulation of the LOSC concerning civil liability has been added to a proposal for a regime of international liability for injurious consequences arising out of acts not prohibited by international law presented to the International Law Commission.[221]

6.6.2 The 1976 Civil Liability Convention

The Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources,[222] adopted in 1976, contains certain provisions concerning civil liability for pollution damage caused by offshore installations. According to Article 3 of the Convention, 'except as provided in paragraphs 3, 4 and 5 of this Article, the operator[223] of the installation[224] at the time of an incident is liable for any pollution damage resulting from the incident'. The exceptions, provided for in Paragraphs 3, 4 and 5, are damage resulting from war, an act of God, damage attached to the operator of an abandoned well if the incident which caused the damage occurred more than five years after the date on which the well was abandoned under the authority and in accordance with the requirements of the Controlling State, and an intentional or negligent act done by the person suffering the damage. The operators[225] of an installation are jointly and severally liable where the installation has more than one operator.[226] When oil has been discharged from two or more installations and pollution results therefrom all the operators of the installations are jointly and severally liable for all such damage which is not reasonably separable.[227] Similarly, in cases when oil has been discharged from one installation as a result of an incident, and during the course of the incident there is a change of operator, all operators of the installation are jointly liable for all such damage.[228] The liability of the operator under this Convention is limited to 40 million Special Drawing Rights (SDR).[229] There is no limit on liability if it is proved that the pollution damage occurred as a result of an act or omission by the operator himself, done deliberately, with actual knowledge that pollution damage would result.[230] The provisions of the 1976 Civil

Liability Convention shall not prevent a State from providing unlimited liability for operators of installations for which it is the Controlling State,[231] as long as there is no discrimination based on nationality.[232] Under the Convention only the courts of a state party where pollution damage was suffered as a result of the incident, or the courts of the Controlling State, have jurisdiction in an action for compensation.[233] Finally, the Convention does not permit any reservations.[234]

The provisions of the 1976 Liability Convention in relation to civil liability appear to be very significant because they impose strict liability on the operator for oil pollution and also provide for joint liability. They rightly empower the Controlling State to increase the limitation of the operators' liability and give recognition to a judgment given by one State Party to any other State Party. However, the Convention is not yet in force and lacks world wide application.

6.6.3 The Nordic Convention

The Convention on the Protection of the Environment between Denmark, Finland, Norway and Sweden[235] includes certain provisions concerning compensation for environmental damage resulting from the discharge of oil from offshore platforms. The Convention defines 'environmentally harmful activities, as 'the discharge from the soil or from buildings or installations of solid or liquid waste, gas or any other substance into water-courses, lakes, or the sea and the use of land, the seabed, buildings or installations in any other way which entails, or may entail environmental nuisance by water pollution or any other effect on water conditions...'[236] Any person affected by a nuisance caused by environmentally harmful activities may raise both proceedings and claims for compensation for damage suffered in the State in which the activity is conducted.[237] The State Supervisory Authority, which shall be appointed by each Contracting State, may institute proceedings against another Contracting State in the interest of the general environmental protection in that State.[238]

The Convention is geographically limited and is applicable in limited cases because it is not easy to identify the source of land based pollution, and the causal link between the sources of pollution and the damage suffered. However, as Churchill and Lowe point out, 'it might be desirable to introduce provisions similar to the Nordic Convention in other regions in order to facilitate the bringing of actions by litigants before foreign courts'.[239]

6.6.4 The 1976 Offshore Pollution Liability Agreement (OPOL)

The Offshore Pollution Liability Agreement[240] purports to control the operation of Offshore Facilities[241] used in connection with the exploration

for or production of oil and gas. The agreement is applicable on continental shelf installations within the jurisdiction of the United Kingdom, Denmark, the Federal Republic of Germany, France, Ireland, the Netherlands and Norway.[242] According to the agreement if a discharge of oil occurs from a designated offshore facility,[243] and if, as a result, any public authorities[244] take remedial measures[245] and/or any person sustains pollution damage, then the party hereto who was the Operator of the designated offshore facility at the time of the discharge of oil shall reimburse the cost of the remedial measures and pay compensation for pollution damage up to an overall maximum of US $25,000,000 per incident.[246] However, there is no liability for pollution damage arising from war, acts or omissions done by a third party, an act of God, an intentional act of a claimant, governmental negligence and similar activities.[247] The maximum reimbursement for remedial measures and the compensation payable for pollution damage is US$ 12,000,000.[248] A claimant who is paid the compensation under OPOL may not take any action against the party and other persons in connection with the incident.[249] Disputes between a claimant and a party concerning the application and interpretation of the OPOL are to be settled by arbitration and under the laws of England.[250]

The fact that the OPOL imposes strict liability upon operators makes the treaty an effective regional instrument related to the control of pollution from offshore installations. The agreement does not accept joint and several liability and requires direct loss or damage, which are important points from an industrial perspective. The use of arbitration for the settlement of disputes is another positive point of the OPOL. However, the agreement lacks an effective enforcement power which has already been demonstrated in practice. According to the Eighth Report of the Royal Commission on Environmental Pollution[251] 'by 1981 only 150 Pounds had been paid out under the agreement as far as incidents on the United Kingdom continental shelf are concerned'.[252]

6.6.5 Evaluation of Existing Treaties Relating to Civil Liability for Environmental Harm Resulting from Offshore Activities

Although the LOSC is the most comprehensive existing international treaty relating to the law of the sea, which covers the issue of civil liability for environmental harm, it does not provide any specific provision with respect to civil liability resulting from the operation of offshore oil rigs. Indeed the issue of civil liability for environmental damage resulting from the operation of offshore oil rigs is part of a broader concept of civil liability for environmental harm. However, the other existing treaties discussed here cover the issue in more detail.

The 1976 Liability Convention imposes strict liability for the operators

of offshore installations. Indeed this Convention expressly covers the issue of pollution from offshore oil installations and provides strict liability for operators of oil rigs in relation to pollution damage resulting from oil platforms. The LOSC considers pollution from oil rigs as part of seabed activities and addresses the issue as part of the general subject of marine pollution.

Similar to the 1976 Civil Liability Convention the Nordic Convention consists of specific provisions concerning compensation for environmental damage resulting from the discharge of oil from offshore platforms. Experts on the law of the sea[253] admire this Convention as a model regional Convention.

The 1976 OPOL addresses pollution problems resulting from all kinds of oil rigs provided that the operator of the platform pays compensation for pollution damages to a specified amount. This treaty, similar to the two other regional conventions discussed in this section, provides significant provisions with respect to civil liability for pollution resulting from offshore oil installations.

Therefore, it can be concluded that the three regional conventions, although concluded prior to the LOSC, cover the issue of civil liability for pollution from oil rigs more efficiently than the LOSC. However, as discussed above, these regional conventions lack worldwide application, and some of them are not yet in force.

6.6.6 Domestic Regulations

Domestic legislation reflects the environmental concerns of each state in relation to marine pollution. The domestic legislation of many countries contains provisions with respect to liability and compensation for the pollution of offshore platforms. The domestic legislation of Australia which is an important offshore oil production region will be reviewed here. Australia has always enacted legislation to implement its international obligations in this area.[254]

In Australia, by the end of the 1980s more than 5 billion barrels of crude oil were discovered, of which 89 percent were produced from offshore resources.[255] A similar ratio has been estimated for future production.[256] Both Commonwealth and State legislation has dealt with marine pollution on a general level. The Commonwealth legislation includes Pollution of the Sea by Oil Act 1960; Protection of the Sea (Discharge of Oil from Ships) Act 1981; Protection of the Sea (Civil Liability) Act 1981; Protection of the Sea (Powers of Intervention) Act 1981; Protection of the Sea (Shipping Levy) Act 1981; Protection of the Sea (Shipping Levy Collection) Act 1981; Environment Protection (Sea Dumping) Act 1981; Protection of the Sea (Prevention of Pollution from Ships) Act 1983; Navigation Act 1912 Hazardous Waste (Regulation of Exports and Imports) Act 1989; and, Protection of the Sea (Oil Pollution Compensation Fund) Act 1993.[257]

The Australian Protection of the Sea (Oil Pollution Compensation Fund) Act 1993[258] basically gives domestic force to the provisions of the Fund Convention.[259] The Civil Liability Convention is given effect by the Protection of the Sea (Civil Liability) Act 1981. This Act includes provisions with respect to the liability of tanker owners for pollution damage caused by oil[260] and the necessity of insurance coverage for the liability for pollution damage of Australian ships and foreign ships visiting Australian ports.[261] However, although this legislation deals to some extent with the exploration and exploitation of oil and gas, it does not mention the legal situation regarding oil production from offshore oil rigs and its environmental impact.

The exploration and exploitation of minerals from the seabed, including drilling activities, is regulated by a number of Commonwealth Acts.[262] The Petroleum (Submerged Lands) Act 1967, which has been amended from time to time[263] including amendment by the Maritime Legislation Amendment Act 1994, is intended to implement provisions of the 1982 LOSC instead of the 1958 Geneva Conventions.[264]

The Commonwealth Sea Installations Act was concluded to insure that sea installations are operated in a manner that is consistent with the protection of the environment.[265] The Act is intended to ensure that the operation of offshore installations is consistent with the protection of the environment.[266] An operator of an offshore installation is guilty of an offence 'where a sea installation is installed in an adjacent area otherwise than in accordance with a permit'.[267] However, this Act does not include the production of oil from oil rigs because a 'sea installation' is defined as any man-made structure, whether floating or in physical contact with the seabed which is used for any 'environment related activities'.[268] Environment related activity is defined as any activity relating to: tourism or recreation; the carrying on of a business; exploring, exploiting or using the living resources of the sea, of the seabed or of the subsoil of the seabed, whether by way of fishing, pearling, oyster farming, fish farming or otherwise; marine archaeology; or a prescribed purpose; and includes a scientific activity and a transport activity. The oil and gas drilling activities are not included in the definition of 'environmental related activities'.[269] Therefore, the Act does not actually regulate environmental issues related to the exploration and exploitation of offshore oil and gas.

The offshore oil industry around Australia has not been of major concern.[270] This is partly based on the fact that, as claimed by the Australian offshore industry,[271] Australian petroleum activities are among the most environmentally safe offshore oil industries in the world.

However, with the increasing use of oil platforms for the production of oil from offshore, it may be necessary for the Government to enact new legislation in this regard.[272]

6.7 Conclusion

The pollution resulting from offshore oil rigs is merely one aspect of the wider issue of environmental marine pollution. However, recent increases in offshore oil production and the use of advanced technology for drilling activities makes the question of pollution from oil rigs a significant environmental problem.

The international law framework in relation to pollution from offshore oil installations is not based on a single, comprehensive legal regime. Rather, it has been derived from a combination of international customary law, international treaties, regional agreements and domestic legislation.

According to customary international law and the general principles of law, states are obliged not to harm the environment of other territories. However, the exact content of this doctrine is not yet clear. This vagueness illustrates the importance of international environmental conventions in relation to control of the marine environment. The general principles of law provide only very basic obligations for protection of the marine environment.

The LOSC covers the issue of pollution from oil rigs as a part of general issue of protection and preservation of the marine environment regulated in its Part XII. Comparatively, the LOSC has dealt with the issue of pollution from oil rigs more efficiently than the 1958 Geneva Convention on the Continental Shelf. However, the 1996 Protocol to the London Convention and the 1990 OPRC cover the issue of pollution from oil platforms in a more detailed and practical approach. The 1990 OPRC is the most competent international instrument dealing with the issue of pollution from oil rigs. It is suggested that the approach of the OPRC should be considered as a model by treaties concluded in the future concerning the protection of marine environment. On a regional level, the 1992 OSPAR Convention clearly obliges States Parties to control and prevent pollution from offshore oil installations. The same approach is taken by the 1989 Kuwait Exploration Protocol, the 1994 Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, and the 1992 Baltic Convention.

This study shows that since around 1980 onward pollution from oil and gas installations became a standard clause in many international treaties. A number of regional Conventions have adopted a Protocol, such as the 1994 Barcelona and the 1989 Kuwait Protocols, in order to specifically cover the issue of pollution resulting from the exploration and exploitation of the natural resources of the continental shelves.

There is also at the present no effective international legal regime which covers the question of liability and compensation resulting from offshore operations conducted on an oil rig. Most treaties covering the area of responsibility and liability for offshore environmental harm are regional rather than international. However, the considerable success achieved by regional arrangements may contribute to the establishment of an international instrument addressing the question of liability arising from offshore operations.

The discussions of this chapter trace the different aspects of pollution from offshore oil rigs which are covered in a fragmentary manner by various regional and international treaties. Further, treaties concluded since the early 1990s have addressed the issue of pollution from offshore oil rigs specifically. It is suggested that a comprehensive international treaty should be concluded to cover the fragmented existing international rules relating to pollution resulting from the exploration and production of offshore oil and gas.

Notes

1. E Gold, *Gard Handbook on Marine Pollution*, Gard (1997) p 288.
2. JE Fender, 'Note, Trouble Over Oiled Waters: Pollution Litigation or Arbitration - The Ixtoc I Oil Well Blow-Out' (1980) *4 Suffolk Transnat'l L.J* 281 at 282.
3. JE Fender, *ibid* at 283-84.
4. In February 1983, an Iranian offshore oil rig was attacked by the Iraqi air force which caused a severe oil spill in the Persian Gulf. The slick then floated close to the waters of several countries in the Gulf. However, the leakage was sealed by Iranian workers in September 1983. See MBE Cates, 'Offshore Oil Platforms which Pollute the Marine Environment: A Proposal for an International Treaty Imposing Strict Liability' (1984) 21 *San Diego LR* 691 at 693.
5. See Chapter 7 below.
6. M Gavouneli, *Pollution from Offshore Installations*, Graham & Trotman/Martinus Nijhoff (1995) p 7; for a general commentary on marine oil pollution see, E Duruigbo, 'Reforming the International Law and Policy on Marine Oil Pollution' (2000) 31 *JMLC* 65.
7. UN Doc A/7750, Part I, p 3, 10 November 1969.
8. LOSC, Art 1(1)(4).
9. A number of changes were undergone in relation to the definition of 'marine' pollution before the final adoption of Art 1(4) in the various sessions of the United Nations Law of the Sea Conference (UNCLOS). Some countries such as Belgium proposed the use of 'waste' without offering a definition. See, M Tomczak, 'Defining Marine Pollution, A Comparison of Definitions used by International Conventions' (1984) 8 *Marine Policy* 311 at 320-321. For a further study of the definition of marine pollution, see SM Evans, 'Control of Marine Pollution Generated by Offshore

Oil and Gas Exploration and Exploitation' (1986) 10 *Marine Policy* 258 at 259; and L Cuyvers, *Ocean Uses and Their Regulation*, John Wiley and Sons (1984) p 68.

10. SM Evans, *ibid* at 263.
11. E Gold, note *supra*, p 293.
12. DM Dzidzornu and BM Tsamenyi, Enhancing International Control of Vessel - Source Oil Pollution under the Law of the Sea Convention, 1982: A Reassessment (1991) 10 *University of Tasmania Law Review* 269 at 269.
13. For more information on the effect of oil at sea see: IMO, Manual on Oil Pollution, Section IV: Combating Oil Spills (London: 1988) and RB Clark. *Marine Pollution*, Clarendon Press (1992) pp 35-44.
14. D Brubaker, *Marine Pollution and International Law*, Belhaven Press (1993) p 37.
15. *Ibid*.
16. LOSC, Art 207.
17. LOSC, Arts 208 and 209.
18. LOSC, Art 210.
19. LOSC, Art 211.
20. LOSC, Art 212.
21. For a list of oil rig blow outs which have occurred internationally see: D Brubaker, note *supra*, 38–40.
22. SM Evans, note *supra*.
23. H Whitehead, *An A-Z of Offshore Oil and Gas*, Gulf Publishing Company (1983) p 88.
24. For the classification of drilling fluids, see GV Chilingarian and P Vorabutr, *Drilling and Drilling Fluids*, Elsevier (1983), pp 44-47.
25. SM Evans, note *supra* at 260.
26. S Reddy, No Ground for Dumping, a Report with an Executive Summary by Greenpeace International, Greenpeace (1995) p 10.
27. H Whitehead, note *supra*, p 70.
28. JP McCourt et al, Toxicity Testing of Drilling Fluid Additives Used in the Canadian Offshore: A Perspective, Canada Oil and Gas Lands Administration, Environmental Protection Branch Technical Report No 1 (May 1984) p 20.
29. SM Evans, note *supra*, at 262.
30. H Whitehead, note *supra*, p 219.
31. SM Evans, note *supra*, at 262.
32. *Ibid*.
33. RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1988) p 277.
34. M Remond-Gouilloud, Prevention and Control of Marine Pollution, in DM Johnston *The Environmental Law of the Sea*, International Union for Conservation of Nature and Natural Resources (1981) 193 at 197.
35. JW Kindt, Marine *Pollution and the Law of the Sea*, William S Hein and Co Inc, (1986) Vol II p 743.
36. Art 3(c)(iii).
37. Art 1(c).
38. LOSC, Art 208(1).
39. LOSC, Art 1(5)(a)(ii).

40. AE Boyle, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 *AJIL* 347 at 351.
41. LOSC, Art 207-212.
42. LOSC, Art 208.
43. For the list of international conventions concerned with marine pollution see E Gold, note *supra*, pp 88-95.
44. M Gavouneli, note *supra*, p 6.
45. Blacks' Law Dictionary defines the *sic utere tuo* as 'use your own property in such a manner as not to injure that of another'. See HC Black, *Law Dictionary*, West Publishing Co, 5 (1979) p 1238.
46. UN Doc A/8082(1970).
47. (1949) ICJ Reports 4 at 22.
48. (1973) ICJ Reports 99 at 106.
49. Art 30, UN Doc A/9559 (1974).
50. Art 194(2).
51. UN Document A/CONF 48/14, 16 June 1972 p 1416.
52. PW Birnie and AE Boyle, *International Law and the Environment*, Clarendon Press (1992) pp 91-92.
53. See International Law Association, Report on the 60th Conference (1982), Art 3(1) and Comments of 'The Montreal Rules of International Law Applicable to Transfrontier Pollution', Resolution No 2/1982 on Legal Aspects of the Conservation of the Environment.
54. P Sands, *Principles of International Environment Law*, Manchester University Press (1995) Vol I p 197.
55. AE Boyle, 'The Law of the Sea and International Watercourses-an Emerging Cycle' (1990) 14 *Marine Policy* 151 at 155-156.
56. M Gavouneli, note *supra*, p 83.
57. *Ibid*.
58. See RY Jennings, 'A Changing International Law of the Sea' (1972) *Cambridge Law Journal* 32 at 43-44.
59. A/CONF 13/C.4/L.15 (1958), UNCLOS I, VI Off Rec 130 (Yugoslavia).
60. A/CONF 13/C.4/L.15 (1958), UNCLOS I, VI Off Rec 130 (Yugoslavia), Fourth Committee, 29th meeting, Para 5.
61. Report of the International Law Commission on the work of its 8th session (A/3159), II YBILC (1956), at 253, 299.
62. *Ibid*.
63. LOSC, Arts 192-237. For more discussion concerning the protection of the marine environment in the LOSC, see generally, PW Birnie and AE Boyle, *International Law and the Environment*, Oxford (1992); B Barrett and R Howells, 'The Offshore Petroleum Industry and Protection of The Marine Environment' (1990) 2 *JEL* 53; AE Boyle, 'Marine Pollution Under The Law of the Sea Convention' (1985) 79 *AJIL* 347; AE Boyle, 'Protecting The Marine Environment: Some Problems And Developments In the Law of the Sea' (1992) 16 *Marine Policy* 79; JW Kindt, 'The Environmental Aspects of Deep Sea Mining' (1989) 8 *UCLAJEL & Policy* 125; G Rose, 'Protection and Conservation of the Marine Environment under International Law' in SV Scott and A Bergin, *International Law and Australian Security*, ADFA

(1997) 97; BH Oxman, 'The Duty to Respect Generally Accepted International Standards' (1991) 24 *NYUJIL & Policy* 109.

64. SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, A Commentary*, Martinus Nijhoff (1991) Vol IV p 36: 'even when using more imperative language through the word 'shall' as in Arts 194, 195 and 196, the scope of the possible obligation is qualified, never absolute'.
65. 'Protection of marine environment is generally considered to refer to protection from pollution': G Rose, 'Protection and Conservation of the Marine Environment' in M Tsamenyi et al, *The United Nations Convention on the Law of the Sea: What it Means to Australia and Australia's Marine Industries*, Centre of Maritime Policy, University of Wollongong (1996) 151 at 151.
66. SN Nandan and S Rosenne, note *supra*, p 40.
67. At the resumed eighth session (1979), the Drafting Committee recommended the use of the phrase 'except in Part XI'. See A/CONF 62/L.40 (1979), session XXI, XII Off, Rec 95, 102;See also A/CONF 62/L.56(1980), Annex B, section XXI, XIII Off, Rec 94, 96 (both by the Chairman, Drafting Committee). See further the Recommendation of the Coordinators of the Language Groups to the Drafting Committee': *ibid*, p 41.
68. *Ibid*, p 43.
69. LOSC, Art 145(a).
70. LOSC, Art. 194(3)(c).
71. See Chapter 3 above.
72. SN Nandan and S Rosenne, note *supra*, p 67.
73. LOSC, Arts 208 and 209.
74. LOSC, Art 208.
75. LOSC, Art 208(1).
76. LOSC, Art 208(2).
77. See for example the draft resolution submitted by Malta at the Seabed Committee in 1971 (A/AC.138/53, Art 2, Para (c), reproduced in SBC Report 1971, at 105, 116 (Malta)): 'States shall take and enforce all reasonable regulatory and control measures for the avoidance of pollution in national ocean space which might cause substantial injury to the interests of other States or of the international community'.
78. Canada, Fiji, Ghana, Guyana, Iceland, India, Iran, New Zealand, Philippines and Spain.
79. A/CONF 62/C.3/L.6 (1974), Art 7, Para 1, III Off Rec 249, 250.
80. It should be pointed out here that these provisions differ from those laws where freedom of navigation may be affected by the exercise of the coastal state regulations. For more discussion on the freedom at navigation and its conflict with offshore oil production, see Chapter 8 below.
81. Belgium, Bulgaria, Denmark, German Democratic Republic, Federal Republic of Germany, Greece, Netherlands, Poland and UK.
82. A/CONF 62/C.3/L.24 (1975), Art 2, IV Off Rec 210: 'With respect to marine pollution arising in connection with seabed activities and installations under the jurisdiction of the coastal State pursuant to chapter of this Convention:
    1. States, acting in particular through the competent international organisations, shall establish as soon as possible, international regulations designed to prevent, reduce and control pollution.

    2. Coastal States may also establish additional or more stringent regulations for this purpose and shall endeavour to cooperate through regional arrangements in that regard.
    3. Coastal States shall ensure compliance with the regulations established pursuant to this article'.
83. Note *supra*.
84. Brazil, India and Peru.
85. A/ CONF 62/C.3/L.30 and 1 (1975) (CRP/MP/19), (Chairman, Informal Meetings on Item 12), IV Off Rec 219 (Third Committee, Informal Meeting) as discussed in SN Nandan and S Rosenne, note *supra*, p 141.
86. MP/4 (1978, mimeo), Art 18, Paras 1 and 5 (Brazil). Reproduced in R Platzoder, Third United Nations Conference on the Law of Sea: Documents, Oceana Publication (1982-8) Vol X P220.
87. Third Committee, 35th Meeting (1978), Para 21, IX Off Rec 145, as discussed in SN Nandan and S Rosenne, note *supra*, p 144.
88. A/CONF 62/L.34 (1979), Para 9, XI Off Rec 83, 84 (Chairman, Third Committee).
89. SN Nandan and S Rosenne, note *supra*, p 144.
90. LOSC, Art 56 (1) (b) (iii).
91. For a discussion of conflict between the rights of the coastal State over its natural resources and the rights of other States to navigation and fishing, see Chapter 8 below.
92. The 1994 Agreement, Annex, section 7.
93. ED Brown, 'The 1994 Agreement on the Implementation of Part XI of the UN Convention on the Law of the Sea: Breakthrough to Universality?' (1995) 19 *Marine Policy* 5 at 16.
94. The 1958 Geneva Convention on the Continental Shelf, Art 5(1)(7).
95. The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Art 1.
96. *Ibid*, Art 3(1)(a)(i).
97. *Ibid*, Art 3(1)(a)(ii).
98. IMO Assembly Resolution A.414(XI), 15 November 1979.
99. IMO Resolution A.696, 16 October 1989.
100. ED Brown, Seabed Energy and Minerals: the International Legal Regime, Martinus Nijhoff (1992) Vol I, p 422.
101. 30 ILM (1991) 733.
102. OPRC, Art 2.
103. OPRC Art 3.
104. OPRC Art 4.
105. OPRC, Art 5.
106. OPRC, Art A.6.
107. OPRC, Art A 7.
108. OPRC, Art A.8 and 9.
109. OPRC, Art 10
110. OPRC, Art A 12
111. The 1974 Convention for the Prevention of Marine Pollution from Land based Sources, 4 June 1974, UKTS (1978) 64., Art 3(c).
112. *Ibid*, Art 15 and 16.

113. *Ibid*, Arts 4, 10, 11 and 16(c).
114. The black list materials include organohalogen compounds and substances which may form such compounds in the marine environment, mercury and mercury compounds, cadmium and cadmium compounds, persistent synthetic materials which may float, remain in suspension or sink, and which may seriously interfere with any legitimate uses of the sea and persistent oils and hydrocarbons of petroleum origin: *ibid*, Annex A, Part I (1-5).
115. Greylist substances include compounds of phosphorous, silicon, and tin and substances which may form such compounds in the marine environment, elemental phosphorus, non-persistent oils and hydrocarbons of petroleum origin: *ibid*, Annex A Part II (1-3).
116. D Brubaker, note *supra*, p 94.
117. *Ibid*.
118. See, GC Kasoulides, 'London North Sea Conference' (1988) 19 *Marine Pollution Bulletin*, pp 97-99.
119. The International Conferences on the Protection of the North Sea, 24 and 25 November 1987, Secs 34 and 36, 27 ILM (1987) 835.
120. The International Conferences on the Protection of the North Sea, 24 and 25 November 1987, Sec 35, 27 ILM (1987) 835.
121. M Gavouneli, note *supra*, p 53.
122. Decision 88/1, 17 June 1988, section B.1 and 10.
123. Annex III and Secs 28-30 on Pollution from Offshore Installations of the Hague Declaration, see M Gavouneli, note *supra*, p 53, and T Ijlstra, 'North Sea Pollution: Vessel-Source Pollution, Environmental Management and the Establishment of the EEZ' (1990) 21 *Marine Pollution Bulletin* 223.
124. Convention for the Protection of the Marine Environment of the North-East Atlantics, done in Paris on 22 September 1992; not in force.
125. Convention for the Protection of the Marine Environment of the North-East Atlantics, Art 5.
126. Convention for the Protection of the Marine Environment of the North-East Atlantics, Annex III, Art 4.
127. Convention for the Protection of the Marine Environment of the North-East Atlantics, Art 10(a)(b).
128. Paris Commission, Decision 92/2.
129. Paris Commission, Recommendation 92/6.
130. In this case the North Sea states, the European Community and four more states which are parties to the Paris Convention: Spain, Ireland, Iceland and Portugal.
131. M Gavouneli, note *supra*, p 55.
132. 32 ILM (1993) 1069.
133. The OSPAR Convention has been signed by all of the parties to the Oslo or Paris Conventions: Belgium, Denmark, the Commission of the European Communities, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland. It has also been signed by Luxembourg and Switzerland.
134. In 1992, the 1972 Oslo Convention: Prevention of Marine Pollution by Dumping from Ships and the 1974 Paris Convention: Prevention of Marine Pollution from Land based Sources were both updated and merged into a new Convention which is called the Oslo and Paris Convention (OSPAR). The new Convention became effective in 1996 and the old Oslo and Paris Conventions were terminated. For a commentary on the Convention see, L de La Fayette, 'The OSPAR Convention Comes into Force: Continuity and Progress' (1999) 14 *IJMCL* 247.
135. OSPAR Convention, Art 5.
136. OSPAR Convention, Art 1(k).
137. OSPAR Convention, Art 1(l).
138. OSPAR Convention, Art 1(j).
139. OSPAR Convention, Art 1(i).
140. OSPAR Convention, Annex III, Art 4.
141. OSPAR Convention, Annex III, Art. 3.
142. OSPAR Convention, Annex III, Art 5.
143. OSPAR Convention, Annex III, Arts 8-10.
144. These treaties are discussed in this Chapter in Secs 6.4.3.4-5 the following pages.
145. M Gavouneli, note *supra*, p 43.
146. DA Ross, 'General Oceanographic Setting of, and Recent Offshore Hydrocarbon Activity in the Mediterranean', IJO/UNEP Experts Meeting, Rome, 11-15 December, 1978, Background Paper No 1 Part C, pp 22-23.
147. Convention for the Protection of the Mediterranean Sea against Pollution, Art 7.
148. The draft Protocol was submitted to the parties of the Barcelona Convention held in Athens in 1987. It was finally concluded in October 1994.
149. Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, 1994, Art 15(1).
150. *Ibid*, Art 15(2).
151. *Ibid*, Art 19(1).
152. Art 20.
153. Art 16.
154. Art 9.
155. Art 10.
156. Art 27.
157. M Gavouneli, note *supra*, p 44.
158. Concluded in Kuwait, 24 April 1978, entered into force, 1 July 1979, 1140 UNTS 133, The Parties to the Convention are Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates.
159. The Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, Art VII. For a study of the Kuwait Regional Convention see, D Momtaz, 'Une convention pour la Protection du Golfe Persique contre la Pollution' (1978) 11-12 *RIRI* 387.
160. Kuwait, 29 March 1989, in force 17 February 1990.
161. M Gavouneli, note *supra*, p 45.
162. *Ibid*.
163. Art II.
164. Art II.
165. Art IV.
166. Art VII.

167. T Ijlstra, 'Pollution from Offshore Installations: the Kuwait Protocol' (1990) 21 *Marine Pollution Bulletin* 8 at 8.
168. Art IX(1)(a).
169. Art X.
170. Art XI.
171. SH Amin, Marine Pollution Regulation in the Persian Gulf (1982) 5 *Marine Policy Reports* 1 at 1.
172. They are Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.
173. The largest offshore oilfield in the world, the Safaniya area under Saudi Arabian control, has currently had an output of approximately 1.5 million b/d. There are more than 160 unmanned well platforms and 5 large six-well platforms in the Area. In the Saudi-Kuwaiti Neutral Zone in the northern end of the Gulf about 300,000 b/d are produced. The Saudi Aramco is expanding its offshore exploration and exploitation. Iran is currently producing 500,000 b/d from offshore wells in the Persian Gulf intending to reach 1,000,000 b/d. Major drilling programs are underway with the participation of some foreign companies such as Total in the Persian Gulf. (*Offshore*, May 1995 and *Jomhoori-e-Eslami* (Tehran) 28 June 1996).
174. In January 1991 during the Iraqi occupation of Kuwait about 950,000 cubic metres of oil were released into the sea. This was nearly twice the spill at Ixtoc in the Gulf of Mexico and twenty times the size of the spill from the Exxon Valdez.
175. Iran-Iraq War (1980-1988) and the Gulf War (1990).
176. Such as territorial disputes between Iran and United Arab Emirates and between Qatar and Saudi Arabia.
177. Helsinki, 22 March 1974, in force 3 May 1980; 13 ILM (1974) 546.
178. Art 3(1).
179. Art 10.
180. Annex IV, Regulation 4.D and 8.C.
181. Annex III, Regulation 3(1).
182. Annex III, Regulation 4 (D).
183. Annex III, Regulation 4(B)(1)(a).
184. Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki 9 April 1992, BNA 35: 0401.
185. P Sands, note *supra*, pp 306-307.
186. Annex VI reg. 3.
187. Annex 3.
188. See Chapter 7 below.
189. See Chapter 7 below.
190. There is an extensive amount of literature on the issue of State responsibility for environmental damage. See for example: I Brownlie, 'State Responsibility and International Pollution: a Practical Perspective' (1991), in DB Magraw *International Law and Pollution*; PM Dupuy and M Redmand-Gouilloud, 'La Préservation du milieu' in RI Dupuy and D Vignes, *Traité du nouveau droit de la mer* (1985); CA Fleischer, Liability for Oil Pollution Damage Resulting from Offshore Operations (1977-1978) 107 *Scandinavian Studied in Law* 143; SE Gaines, 'International Principle for Transnational Environment Liability: Can Developments in Municipal Law help Break the Impass' (1989) 30 *Harvard ILJ* 311; LFE Goldie, 'International Principle of Responsibility for Pollution' (1970) 9 *J Columbia, Transn'l* 283; WN Hancock and RM Stone, 'Liability for Transnational Pollution Caused by Offshore Oil Rigs' (1982) *Hastings ICLR* 377; G Handl, 'International Liability of States for Marine Pollution' (1983) 21 *Canadian YBIL* 85; KB Hoffman, 'State Responsibility in International Law and Transboundary Pollution Injuries' (1976) 25 *ICLQ* 509; BD, Smith, *State Responsibility and the Marine Environment the Rules of Decision*, Clarendon Press (1988).

191. The International Law Commission (ILC) has been working on the topic of State responsibility since 1949, when it decided to begin study of this topic as one of the topics in international law ready for codification (See 37 ILM (1998) 440: K Zemanek, 'General Course on Public International Law' (1997) 266 *Recueil des Cours* 293-273. Along with this decision in 1955 the Commission appointed Garcia Amador as special Rapporteur for the topic. He presented 6 reports to the Commission dealing with the question of the responsibility of a State for injuries to the person and property of aliens. (II YBILC (1969) 229). The ILC produced a 'Draft Article' consisting of 60 Articles which were sent to Governments for their comments and observations. The Commissions' work is now continuing under Professor James Crawford.(for the text of the Draft Articles see, 37 ILM (1998) 442-461).
192. See Section 129 of 'Introductory document prepared by Italian Government Rome' 1990, p53 for the Forum on International Law of the Environment, Siena 17-21 April 1990, as discussed in M Gavouneli, note *supra*, p 89.
193. *Trial Smelter* (1941) 3 RIAA 1905; See also A Kiss and D Shelton, *International Environmental Law*, Transnational Publication (1991) p 348.
194. (1941) 3 RIAA 1905 at 1965-66.
195. (1949) ICJ Reports 4.
196. (1957) RIAA 281.
197. See Canada: Draft Articles for a Comprehensive Marine Pollution Convention, Art 1-2, UN Doc A/Ac.138/SC.iii/L.28; Canada, Fiji, Ghana et al: Draft Article on a Zonal Approach to the Preservation of the Marine Environment, Art 1, UN Doc A/CONF 62/C.3/L.6; USA: Draft Article on the Protection of the Marine Environment and the Prevention of Marine Pollution, Art 9 UN Doc A/Ac.138/SC.iii/L.40; and Kenya: Draft Articles for the Preservation and the Protection of the Marine Environment for Inclusion in the Convention of the Law of the Sea, Art 3, UN Doc A/CONF 62/C/L.25.
198. LOSC, Art 194(2).
199. Art 30, 14 ILM (1975) 251.
200. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London 1972, entered into force 30 Aug. 1975, 26 UST 2403.
201. Principle 21, Declaration of the United Nations Conference on the Human Environment, adopted 16 June 1972, UN Doc A/CONF 48/14.
202. Informal Suggestion by Bahrain, Yemen, Egypt et al, Doc MP/18, 10 Official Records 1978, p III: M Gavouneli, note *supra*, p 94.
203. MW Mouton, *The Continental Shelf*, Martinus Nijhoff 1952, p 173.
204. Art 194 (2) of the LOSC states: 'States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their jurisdiction or control does not spread

beyond the areas where they exercise sovereign rights in accordance with this Convention'.

205. *Trial Smelter Arbitration* (1941) 3 RIAA 1905.
206. LOSC, Art 139 (1) and 139 (2).
207. Art 153 (4) of the LOSC states: 'The Authority shall exercise such control over activities in the Area as is necessary for the purpose of securing compliance with the relevant provisions of this Part and the Annexes relating thereto, and the rules, regulations and procedures of the Authority…'.
208. See RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) p 332.
209. I Brownlie, *Principles of Public International Law*, Clarendon Press, (5 1998) p 440.
210. See the *Corfu Channel Case* (1949) ICJ Reports 4 and the *Nuclear Tests Cases* (1974) ICJ Reports 253.
211. See, I Brownlie, note *supra*, pp 440-444.
212. LOSC Art 235(2) and 235(3).
213. LOSC, Annex III Art 22.
214. SN Nandan and S Rosenne, note *supra*, p 401.
215. Stockholm Conference Report (A/CONF 48/14/Rev 1 and Corr 1) at 5.
216. Stockholm Conference Report (A/CONF 48/14/Rev 1 and Corr 1) Annex III, at 73.
217. A/AC 138/SC.III/L. 40 (1973, mimeo), Art XXII (USA).
218. A/CONF 62/WP Rev 1 (ICNT/Rev 1, 1979, mimeo), Art 235.
219. Art 229 states: 'Nothing in this Convention affects the institution of civil proceedings in respect of any claim for loss or damage resulting from pollution of the marine environment'. Art 232 states: 'States shall be liable for damage or loss attributable to them arising from measures taken pursuant to section 6 when such measures are unlawful or exceed those reasonably required in the light of available information. States shall provide for recourse in their courts for actions in respect of such damage or loss'.
220. Art 304 of the LOSC states: 'The provisions of this Convention regarding responsibility and liability for damage are without prejudice to application of existing rules and the development of further rules regarding responsibility and liability under international law'.
221. J Barbosa, 6th Report on International Liability for Injurious Consequences out of Acts not prohibited by International Law, Draft Arts 28-33 (UN Doc CN.4/428); for a study of the LOSC's provisions in relation to civil liability for marine pollution see AE Boyle, note *supra*; SM Evans, note *supra*; ED Brown, *Seabed Energy and Mineral Resources and the Law of the Sea*, Graham and Trotman (1986) Vol II Chapter 9 and JW Kindt, 'The Law of the Sea: Offshore Installations and Marine Pollution' (1985) 12 *Pepperdine Law Review* 381.
222. RR Churchill et al, *New Directions in the Law of the Sea*, Oceana Publications (1977) Vol VI, 535. The Convention is not in force yet.
223. 'Operator' means the person, whether licensee or not, designated as operator for the purposes of this Convention by the Controlling State, or in the absence of such designation, the person who is in overall control of the activities carried on at the installation.

224. The term 'installation' is defined in Art 1(2)(a)(b)(c)(d)(e) of the Convention. It includes any well or other facility, fixed or mobile, which is used for the purpose of exploring for, producing, treating, storing, transmitting or regaining control of the flow of the crude oil from the seabed or its subsoil.
225. Art 1(3) of the Convention defines the operator as 'the person, whether licensee or not, designated as operator for the purpose of this Convention by the Controlling State, or in the absence of such designation, the person who is in overall control of the activities carried on at the installation'.
226. Art 3(2).
227. Art 5(1).
228. Art 5(2).
229. Art 6(1).
230. Art 6(4).
231. 'Controlling State' means the State Party which exercises sovereign rights for the purpose of exploring for and exploiting the resources of the seabed and its subsoil in the area in or above which the installation is situated. (Art 1(4)).
232. Art 15(1).
233. Art 11(1).
234. Art 24.
235. R Churchill et al, note *supra*, p 514.
236. Art 1.
237. Art 3.
238. Art 4.
239. RR Churchill and AV Lowe, note *supra*, p 389.
240. R Churchill et al, note *supra*, p 507.
241. 'Offshore Facility' includes any installation of any kind, fixed or mobile, used for the purpose of exploring for, producing, treating, storing or transporting crude oil and gas from the seabed or its subsoil. (OPOL, Clause I(7)(a)(b)).
242. OPOL, Clause I(3).
243. 'Designated Offshore Facility' means each offshore facility to which a party has made this Contract applicable. Each such offshore facility is a designated offshore facility only as to the party who designated the same and only for the period during which that party is the operator thereof'. (OPOL, Clause I(9)).
244. 'Public Authority' means the government of any state recognised as such under international law of custom and public body or authority within such state competent under the municipal law of such state to carry out remedial measures'. (OPOL, Clause I(4)).
245. 'Remedial Measures' means reasonable measures taken by any party from whose designated offshore facility a discharge of oil occurs and by any public authority to prevent, mitigate or eliminate pollution damage following such discharge of oil or to remove or neutralise the oil involved in such discharge'. (OPOL, Clause I(14)).
246. Clause IV(A).
247. OPOL, Clause IV (B) 1-4.
248. OPOL, Clause IV(1)(2).
249. OPOL, Clause VII.
250. OPOL, Clauses IX and XII.

251. Royal Commission on Environmental Pollution, Eighth Report, Oil Pollution of the Sea, Cmnd. 8358, London, 1981.
252. RR Churchill and AV Lowe, note *supra*, p 377.
253. *Ibid*, p 281.
254. For further discussion on the internationalisation of Australian law, see IA Shearer, 'Foreword, the Internationalisation of Australian Law' (1995) 17 *Sydney Law Review* 121. See also, DP O'Connell, *International Law in Australia* (1965); J Crawford, 'The International Law Standard in the Statutes of Australia and the United Kingdom' (1979) 73 *AJIL* 628; IA Shearer, 'The Growing Impact of International Law on Australian Domestic Law - Implications for the Procedures of Ratification and Parliamentary Scrutiny' (1995) 69 *Australian Law Journal* 404; KW Ryan, *International Law in Australia* (2 1984); S Blay et al, *Public International Law, an Australian Perspective*, Oxford University Press (1997).
255. MWD White, *Marine Pollution Laws of the Australasian Region*, Federation Press (1994) p 241. See also Australian Institute of Petroleum (AIP) and the Australian Petroleum and Exploration Association (APEA) Education Project, Offshore Drilling (1997) (viewed February 2001) at: *http//www.aip.com.au/education/ptoos.html*.
256. Department of Primary Industries and Energy Booklet *Offshore Strategy, Promoting Petroleum Exploration Offshore Australia*, AGPS Press (1990) p 2, as discussed in *ibid*.
257. For a review of this legislation and other relevant State legislation, see MWD White, note *supra*, pp 168-232.
258. Acts of the Parliament of the Commonwealth of Australia passed during the year 1993, Australian Government Publishing Service Canberra 1994, Vol 1 p 686.
259. International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 is a supplementary convention to the 1969 Civil Liability Convention.
260. Part II.
261. Part III.
262. Such as the Petroleum and Minerals Authority Act 1973, Petroleum (Ashmore and Cartier) Islands Act 1967, Petroleum Excise (Prices) Act, 1987 Petroleum Products Pricing Act 1981, Petroleum Resource Rent Tax Act Assessment Act 1987, Petroleum Resource Rent Tax (Interest on Underpayments) Act 1987, Petroleum Retail Marketing Sites Act 1980, Petroleum Revenue Act 1985, Petroleum Search Subsidy Act 1959, Petroleum (Submerged Lands) (Exploration Permit Fees) Act 1967, Petroleum (Submerged Lands) (Pipeline Licence Fees) Act 1967, Petroleum (Submerged Lands) (Production Licence Fees) Act 1967,Petroleum (Submerged Lands) (Registration Fees) Act 1967, Petroleum (Submerged Lands) (Retention Lease Fees) Act 1985 and the Petroleum (Submerged Lands) (Royalty) Act 1967; Offshore Minerals Act 1994, Offshore Minerals (Exploration Licence Fees) Act 1981, Offshore Minerals (Mining Licence Fees) Act 1981, Offshore Minerals (Retention Licence Fees) Act 1994, Offshore Minerals (Registration Fees) Act 1981, Offshore Minerals (Works Licence Fees) Act 1994, Petroleum (Submerged Lands) (Fees) Act 1994, Petroleum (Submerged Lands) (Registration Fees) Act 1994.
263. A number of amendments were made to the Petroleum (Submerged Lands) Act 1967 in a long term review of Commonwealth petroleum legislation in 1998. More amendments have been incorporated in a Petroleum (Submerged Lands) Legislation Amendment Bill which is now under parliamentary process. (See *AMPLA News*, Number 10, February 1999, p 4.

264. MWD White, note *supra*, p 243.
265. See Installation Act 1987, section 2 (3)(e).
266. Section 3.
267. Section 14(1).
268. Section 4(3).
269. Section 4(1).
270. MWD White, note *supra*, p247.
271. The position of the Australian petroleum industry can be found (viewed February 2001) at: *http//www.aip.com.au/education/ptoos.html*.
272. For a study of the environmental issues related to offshore oil drilling and production in Australia, see generally: JM Swan et al *Environmental Implication of Offshore Oil and Gas Development in Australia*, Australian Petroleum Exploration Association Limited (1994).. E Gold, *Gard Handbook on Marine Pollution*, Gard (1997) p 288.

7 The Decommissioning of Offshore Oil Rigs

7.1 Introduction

The decommissioning of offshore oil rigs is the process of deciding how to remove and dispose of the installations when they reach the end of their economic lives. It is an important issue in relation to the entire process of the production of oil from oil rigs. The dumping of oil rigs at sea has created a range of international debates in recent years and has been discussed in both international treaties, such as the LOSC,[1] and by organisations, such as the IMO.[2]

In 1995, the decision of Shell, a joint Dutch-British corporation and the world's largest non governmental oil producer, to dump an oil rig, the Brent Spar, in the North Sea created a stormy protest, lead by Greenpeace, across Europe.[3] The dismantling of the rig on land would have cost the Company at least $50 million in extra expenses.[4] There still exists significant controversy over the more than 440 oil platforms in the North Sea in respect of their removal and disposal. Several of these installations are due for decommissioning in the near future, including the North West Hutton, operated by Amoco, and Heather, operated by Unocal, another American oil firm.[5]

From an international perspective there is an inconsistency between the 1958 Geneva Convention on the Continental Shelf, which provides for the total removal of the offshore installations, the 1982 LOSC which requires only partial removal of the oil platforms and the 1972 London Convention and its 1996 Protocol which permit the offshore disposal of oil rigs under certain conditions. Other existing instruments, such as the OSPAR Commission Guidelines, lack worldwide agreement.

It is intended at this point to review the overall state of international law in relation to the decommissioning of offshore oil rigs. After a review of the problems inherent in the dumping of platforms at sea and the current disposal options available, the existing international conventions, regional treaties and the practice of a number of the major offshore oil producer States will be examined. At the conclusion a preferred approach to the issue of decommissioning of oil rigs is proposed.

7.2 Problems of Dumping Platforms at Sea

Dumping is defined by the LOSC as 'any deliberate disposal of vessels, aircraft, platforms, or other man-made structures at sea'.[6] The dumping of oil rigs into the sea is a complex and risky operation. It impacts on both the marine environment and the safety and health of their operators. Some methods of dumping are costly and have substantial economic repercussions.

7.2.1 Environmental Issues

The dumping of offshore platforms affects the marine environment. The substances found in and on a rig such as steel, concrete and residual amounts of heavy metals or hydrocarbons and drill cuttings, may cause severe damage to the marine environment. Some of the materials and substances on the platforms are toxic and harmful to the fish and other marine biota. It has also been said that the use of explosive materials by the oil companies to free the rigs' legs from the sea bottom destroys the surrounding sea life.[7] A number of independent scientists and oil companies argue that the damage done to the marine environment by a sunken structure is limited if it is cleaned out beforehand.[8] According to a report by the UK Offshore Operation Association Limited (UKOOA) in June 1995[9] concerning the environmental impact of decommissioning of oil rigs:

> As long as International Conventions are followed, there is little to choose between the options on a strictly environmental basis. Most of the impacts associated with each option are 'negligible' and the options are largely separated by the number of negligible impacts they cause. It is likely, therefore, that considerations of cost, safety and practicality will predominate in arriving at a BPEO.[10]

However, Greenpeace and other environmental activists are not convinced.[11] They are concerned that the disposal of oil rigs at sea is harmful to the marine environment. During the Brent Spar debate[12] in 1995, Greenpeace countered with the argument that the Brent Spar rig held 5,500 tons of oil and was a pollution hazard to the marine environment.[13] Shell, on the other hand claimed that the rig contained only 100 tons of oil.[14] It was later revealed that Greenpeace had sampled a pipe leading to the rig's storage tank, and not the tank itself, in estimating the oil content.[15] It is notable that in September 1997 Greenpeace apologised for its inaccurate claim.[16]

7.2.2 Health and Safety Implications

In some stages of the decommissioning process of oil platforms, such as the

underwater cutting and handling of large quantities of structural steel, there is a potential of risk to the safety and health of personnel, such as mechanics, welders, riggers, electricians and divers. These concerns create complex engineering challenges which need to be managed throughout the entire decommissioning process.[17]

7.2.3 Economic Impact

Cost is an important factor in determining the decommissioning strategy. The cost of decommissioning platforms in deep waters is greater than in shallow waters. The dismantling and disposal of rigs on land costs considerably more. According to the business development manager of the offshore contractor Heerema UK, the estimated cost of removing all 416 oil rigs in the North Sea will be around GBP6 billion. Oil companies believe that the actual cost of removal will be higher, reaching nearly GBP10 billion.[18]

7.2.4 Public Concern

The offshore oil and gas industry should take into account public opinion as well as scientific information. The Brent Spar incident is an important example of a successful public campaign. Environmental issues are a primary source of public concern.

7.2.5 Comment on the Problems of Dumping Platforms at Sea

Traditionally, the safety of navigation was the main problem in relation to dumping oil platforms at sea. This was the main concern at UNCLOS I which led to the conclusion of Article 5(5) of the 1958 Geneva Convention on the Continental Shelf.[19] During the negotiations at UNCLOS III the economic cost of decommissioning oil platforms was the main concern and led to the inclusion of Article 60(3) of the LOSC. In recent years the protection of the marine environment has been an important issue in both the international and national arena. Since the Brent Spar incident in 1995 the public concern in respect of the environmental aspect of the decommissioning of oil rigs has been an important consideration in relation to the process of deciding how to end the operation of offshore oil wells and dispose of the rigs.

7.3 Disposal Options

The process of decommissioning offshore installations includes the initial removal and the disposal option. There have been a range of suggestions for

the best method to employ for the disposal of oil platforms.

7.3.1 Leave in Place

It seems that leaving the disused platform in place saves the energy expenditure required to remove the platforms. This option is hazardous to the environment because of the potential pollution from the accumulation of contaminated drill cuttings at the base of the platforms or from the materials and substances on board.[20] It has been said that this option is unacceptable because the question of removal is delayed, not resolved, and the residual liability remains.[21]

7.3.2 Alternative Use

There are some suggestions for alternative uses of oil rigs, including offshore search and rescue bases, wind, wave, and thermal power generation, marine research facilities, vessel traffic management coordination, casinos, prisons, hotels, meteorological centres, ferry terminals and artificial reefs.[22] During the Brent Spar debate one of the ideas expressed was to cut off the giant oil rigs and use its base to establish a floating hotel.[23] More than 200 ideas were suggested as solutions for the problem of decommissioning the Brent Spar platform including its use as a casino, a hotel and a fish farm.[24] Finally, Shell announced that the platform was to be cut up as a quayside for ferries on the Norwegian coast.[25] In order to determine whether or not a platform can be reused or relocated the condition of the structure, its mechanical properties, damage-prone conditions, the extent of the weld insections, the age of the structure, water depth, the size of the structure and an economic analysis must be evaluated.[26] For example, by comparing the age of an oil rig to the design fatigue life, the remaining design fatigue life of the structure can be estimated.[27] If the analysis of the age and the design fatigue life of the structure shows that the design fatigue life has already been exceeded then the platform would not be considered a good candidate for reuse.[28] Thus far the alternative use option has not become common practice because it is not economically viable and requires high maintenance costs.[29] There is doubt that the income generated by such projects would be able to cover the operation and maintenance costs.[30]

7.3.3 Moving to Shore for Recycling

Moving the oil platform to shore for recycling seems to be the environmentally desirable option. It can prevent the risk of pollution to both the marine environment and land. Furthermore, certain materials which make up the structure, such as stainless steel, copper, aluminium, zinc and

offshore equipment are recyclable materials that could have a great value to the onshore scrap industry at the same time as increasing employment.[31] In Norway, for example, reusing parts of installations for harbour facilities or in fish farm developments has been an attractive method of decommissioning.[32] However, decommissioning a structure in deep waters where there are big size platforms involved can be very costly.[33]

7.3.4 Artificial Reefs

Cleaned, offshore platforms used to create reefs for marine life may be a desirable way of recycling redundant oil platforms. The rigs to reefs program has been developed around the world[34] including the US, Australia, Malaysia, Brunei, Japan, Cuba, Mexico and the Philippines.[35] In the Gulf of Mexico, where the most extensive and successful rigs-to- reefs program was developed, some 90 platforms have already been placed in permanent disposal sites as reefs.[36] They range in water depth from 30 to 100 metres and are located between 50 and 200 miles offshore.[37] Artificial reefs are helpful to fishing communities as they increase fishing success.[38] Artificial reefs provide shelter for marine living resources from strong currents, a stable substrate for attachment, a source of food in the form of algae, and a breeding and nursery area.[39] However, the positive effects on fish species are questionable when considering that the polluting materials which make up platforms can damage the marine life.[40] That is the reason Greenpeace rejects the 'rigs to reefs' option as an environmentally safe solution for the decommissioning of the North Seas' oil installations.[41]

One problem in relation to the use of oil rigs as artificial reefs is the cost of cleaning the rig, which can be extremely high, particularly when the rig has to be moved to shallow waters. Some opponents of the 'rigs to reefs' program point out that many of the artificial reefs programs are simply ocean dumping in disguise.[42]

7.3.5 Total and Partial Removal

Removing some parts of the installation and leaving other parts in the sea is considered to be environmentally unsafe and hazardous by environmentalists.[43] Moreover, deep water disposal, which means the emplacement of structures at designated deep water sites, is considered problematic.[44] For example, this manner of decommissioning may conflict with developing interest in deep water fisheries. Indeed, deep water dumping of oil platforms on a large scale can create a conflict of interest with the fishing industry as well as safety problems.[45]

The complete removal and dismantling of platforms onshore is the option which is highly desired by environmental activists.[46] There are some arguments, however, against the option of total removal in relation to its feasibility, cost[47] safety[48] and environmental concerns.[49]

7.3.6 Comment on Disposal Options

Since the UNCLOS I total or partial removal options have been the subject of negotiations which led to the inclusion of a provision in both the 1958 Continental Shelf Convention and the 1982 LOSC. However, the alternative use of platforms including their use as artificial reefs has been considered by many offshore oil producing countries.

The total removal option favoured by environmentalist groups is environmentally safe. However, this option is costly. Oil companies prefer partial removal but this option is opposed by environmentalists.

7.4 International Law Provisions Relating to Decommissioning of Oil Installations

International law determines the legal regulations of the offshore abandonment of oil installations.[50] The main question in relation to the decommissioning of offshore installations in international law is 'whether installations are to be removed: or whether they may be left fully or partially *in situ*'.[51] There are a number of international treaties which provide regulations for the decommissioning of oil rigs. There is also a considerable permeability between treaty provisions and state practice relating to the abandonment of offshore installations.[52] In this section the relevant international conventions, both worldwide or regional, and the accompanying state practice will be discussed.

7.4.1 Worldwide Conventions

7.4.1.1 1958 Geneva Convention on the Continental Shelf The 1958 Convention on the Continental Shelf clearly placed an obligation on the coastal State to entirely remove any abandoned or disused installations from its continental shelf. The relevant provisions of the Convention provide that:

Due notice must be given of the construction of any such installations, and permanent means for giving warning of their presence must be maintained. Any installations which are abandoned or disused must be entirely removed.[53]

The ordinary interpretation of Article 5(5) of the Continental Shelf Convention appears to indicate a strict duty on state parties to entirely remove both abandoned and used offshore installations. Nevertheless, since offshore activities have increased considerably in the years following the conclusion of the 1958 Continental Shelf Convention, there has been some

offshore equipment are recyclable materials that could have a great value to the onshore scrap industry at the same time as increasing employment.[31] In Norway, for example, reusing parts of installations for harbour facilities or in fish farm developments has been an attractive method of decommissioning.[32] However, decommissioning a structure in deep waters where there are big size platforms involved can be very costly.[33]

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The ordinary interpretation of Article 5(5) of the Continental Shelf Convention appears to indicate a strict duty on state parties to entirely remove both abandoned and used offshore installations. Nevertheless, since offshore activities have increased considerably in the years following the conclusion of the 1958 Continental Shelf Convention, there has been some

considerable effort to interpret the 1958 provisions concerning the removal of offshore installations to imply total removal only where there is an unjustifiable interference with navigation. This interpretation is supported by several of the major offshore oil producers, such as the UK[54] and Norway,[55] primarily because of the high cost required for total removal.[56]

Although some writers[57] argue that the clear wording in Article 5(5) of the Continental Shelf Convention, requiring that installations be removed entirely, fails to allow for any flexibility in the interpretation of that Article, others[58] believe that the strictness of the Continental Shelf Convention concerning the removal of oil installations may be reduced by employing either the general rules of treaty interpretation or because of a fundamental change of circumstances.

The latter group argues that Article 31 of the Vienna Convention on the Law of Treaties provides that a treaty is to be 'interpreted in good faith in accordance with the ordinary meaning to be given to the treaty in their context and in the light of the object and purpose' of the Treaty. Under Article 32 of the Vienna Convention, when the interpretation under Article 31 of the Vienna Conventions leads to an unreasonable result, recourse may be had to supplementary means of interpretation pursuant to Article 32. As a supplementary means of interpretation, it is argued that the suggestion of the United Kingdom delegation in 1958 in relation to Article 5 of the Continental Shelf Convention was based on the fact that the abandoned installations might be of significant danger to navigation. In the Fourth Committee of UNCLOS I the UK proposed an amendment concerning the removal of offshore installations, which suggested that any abandoned or disused installations should be removed entirely.[59] Following the UK proposal, Pakistan suggested replacement of 'should' by 'must'. The Pakistan amendment was adopted as the final proposal.[60] The *travaux preparatoires* of the 1958 Continental Shelf Convention show that the issues related to the removal of offshore platforms were not discussed in detail.[61] Therefore, the total removal of offshore installations in any circumstances would be a manifest absurdity or at the very least lead to an unreasonable result.[62] Furthermore, in reference to Article 62 of the Vienna Convention on the Law of Treaties,[63] it is asserted that technological developments concerning offshore activities, such as the feasibility of operating in waters deeper than 200 metres depth, is a fundamental change of circumstances.[64] Finally, they asserted that the 1982 LOSC clearly envisages partial removal. Therefore, the 1958 Continental Shelf Convention may be interpreted as placing a flexible duty on states for the total removal of offshore installations.[65]

It is very clear that the wording used in the 1958 Continental Shelf Convention, 'any installations which are abandoned or disused must be entirely removed',[66] means a duty to totally remove offshore installations which have been abandoned or misused. Even the *travaux preparatoires* of the 1958 Continental Shelf Convention which did not discuss the issue of the decommissioning of oil platforms in detail, do not support the view that Article 5 (5), in spite of its wording, did not intend to impose a duty on state parties to entirely remove their misused and abandoned offshore installations. When the proposal of the United Kingdoms' delegation in the UNCLOS I was discussed, the notification of the Rapporteur, which indicated that the obligation for the removal of offshore installations was implicitly mentioned in Article 5(1), and therefore did not require a specific mention, was not generally supported.[67] Even with the assumption that the UK proposal was based on the fact that abandoned installations presented significant danger to navigation, one cannot argue that all the other states' delegations, who agreed with the proposal, were in the same position. The proposal was adopted by a vote of 41: 0 with 13 abstentions.[68] Furthermore, it was Pakistan, which is neither a sea power nor a major offshore oil producer, that proposed that the word 'should' be substituted for 'must'.

It is a fact that at the time there were very few offshore installations operating in the world, and not many of them were out of work, ready for abandonment, or removal. There is also no doubt that the advance of technology in recent decades has enabled countries to produce more oil and gas from offshore resources, and to build different offshore facilities on the sea, thus attracting more attention.[69] Furthermore, many offshore platforms are now ready for abandonment as their useability is limited. However, the technological development leading to the employment of advanced instruments for drilling, which makes the construction of huge oil platforms in deeper waters more feasible, cannot be considered a fundamental change of circumstance,[70] the subject of Article 62 of the Vienna Convention. Although removing huge oil rigs from deep waters may generate extra costs, it does not create any other problems. The technology which makes the construction of huge oil platforms in deep water possible can also provide the means for their removal. In addition, it may be environmentally safer.

It should be mentioned here that Article 60(3) of the LOSC, which appears to be in conflict with Article 5(5) of the Continental Shelf Convention, is now in force, and therefore the practice of states following the ratification of the LOSC becomes very significant. This will be discussed in the next section.[71] However, it should also be mentioned here that the provisions of Article 5(5) of the Continental Shelf Convention are still binding on those countries which are parties to this Convention and not to the LOSC.

7.4.1.2 The 1982 LOSC The 1982 LOSC provides a less strict duty for the removal of offshore installations. It permits partial removal of offshore installations. The Convention provides:

> Any installations and structures which are abandoned or disused shall be

> removed to ensure the safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organisation. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other states. Appropriate publicity shall be given to the depth, position and duties of other States.[72]

The provisions of the LOSC concerning the removal of offshore installations was discussed in UNCLOS III in early 1980. The original texts of the 1982 Convention, the Informal Single Negotiating Text (ISNT), provided for 'entire' removal in conformity with Article 5(5) of 1958 Continental Shelf Convention.[73] Again it was the UK delegation who put forward a proposal to amend the original text of Article 60(3) of the LOSC. At the eleventh session (1982), the United Kingdom submitted a proposal to modify the proposed Article 60(3) of the LOSC.[74] The UK proposal read:

> Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking account of any generally accepted international standards established in this regard by the competent international organisation ... Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.

The text proposed by the United Kingdom, with minor adjustments recommended by the Drafting Committee was included in the Convention.[75] Later a proposal was submitted by France to replace the second sentence of Article 60 in order to make the depth of water in which the installations are placed as a criterion for the degree of removal of installations.[76] According to this proposal installations and structures placed in water of 60 metres or less were to be removed entirely but in all other cases, in which the depth of water was more, the remaining structures were not to extend more than 10 metres above the seabed.[77] The French proposal was described as requiring only partial removal. However, this proposal was not pressed to a vote.[78]

The LOSC also deals with the issue of the disposal of offshore platforms in a number of other Articles under the subject of 'dumping'.[79] 'Dumping' is defined by the LOSC as 'any deliberate disposal of wastes... platforms or other man-made structures at sea'.[80] This definition of dumping which was adapted from the 1972 London Convention[81] clearly includes the disposal of oil rigs at sea. Therefore, various provisions of the LOSC with respect to dumping may be relevant to the decommissioning of oil rigs as well.

Article 210(5) of the LOSC provides that 'dumping within the territorial sea and the exclusive economic zone or on the continental shelf shall not be carried out without the express prior approval of the coastal State, which has the right to permit, regulate and control such a dumping after due

consideration of the matter with other States which by reason of their geographical situation may be adversely affected thereby'. This means that the disposal of platforms in the territorial sea, the continental shelf and the EEZ, even by those foreign states and companies which have been authorised by the coastal State to emplace and operate oil platforms, must be carried out with the permission of the coastal State. However, the coastal State, unlike its almost absolute jurisdiction to authorise the construction of oil platforms on its continental shelf and the EEZ,[82] has a more limited right to allow dumping in its territorial water, continental shelf and EEZ. The coastal State is under the obligation to show due consideration to other States in the matter of allowing dumping in its continental shelf and EEZ[83] as these States by reason of their geographical location may be adversely affected thereby.[84] Practically speaking, this condition makes the disposal of oil installations, particularly huge platforms, in the continental shelf and the EEZ very difficult because the neighbouring States would in most circumstances consider such disposals as hazardous to their environment.

Article 216 of the LOSC complements the provisions of dumping provided for in Article 210. It obliges the coastal State, to enforce 'laws and regulations adopted in accordance with this Convention and applicable international rules and standards established through competent international organisations or diplomatic conference for the prevention, reduction and control of pollution of the marine environment by dumping'.[85] The provisions of Article 216 correspond to those of Article VII of the 1972 London Convention.[86]

Article 194 of the LOSC provides measures for the prevention, reduction and control of pollution in the marine environment. The Article, in paragraph 3(a), provides that the measures taken to protect the marine environment must deal with all sources of pollution including measures to minimise to the fullest possible extent the release of toxic and harmful substances by dumping.[87] Considering the meaning of dumping, as defined in Article 1(5)(a)(i) of the LOSC, these provisions would cover the disposal of oil platforms at sea. However, paragraph 3(c) of Article 194 covers pollution from offshore installations.

To protect the marine environment of the Area the Authority must adopt rules and regulations to secure effective protection of the marine environment from activities in the Area taking into account the extent to which the harmful effects of such activities may directly result from matters such as the drilling and dumping into the marine environment of sediment, waste or other effluent.[88]

The LOSC further provides conditions with respect to special arbitration in cases of disputes concerning the interpretation of the application of Articles of the Convention relating to certain issues, including dumping in Annex VIII.[89]

Since the conclusion of the 1982 LOSC,[90] there have been a number of developments which have had considerable effect on the legal situation surrounding the decommissioning of offshore oil rigs such as the conclusion, in 1989, of the IMO guidelines and standards for the removal of offshore installations and structures on the continental shelf. One issue in relation to the provisions of the LOSC with respect to the removal of oil platforms is whether or not the 1982 LOSC supersedes the 1958 Continental Convention. According to Article 311(1) of the LOSC 'this Convention shall prevail, as between States Parties, over the Geneva Convention on the Law of the Sea 29 April 1958'. Therefore, for those countries which are parties to both the 1958 Continental Shelf Convention and the LOSC, the provisions of the latter convention will prevail. However, those countries which are parties to the 1958 Continental Convention and have not ratified the LOSC are still bound by the provisions of the former, which impose a strict obligation on states to entirely remove offshore oil platforms.

The LOSC covers the issue of the decommissioning of oil rigs in more detail than the 1958 Geneva Conventions. In defining dumping to include the disposal of platforms at sea and the provisions of Articles 210 and 216 for the control of dumping, the LOSC indicates a wider scope of stipulations relating to the decommissioning of oil rigs. However, the LOSC's provisions appear to be somewhat ambiguous with the referral to international standards. The significance of the LOSC's provisions with respect to the decommissioning of offshore installations is that, unlike the 1958 Continental Convention, it permits partial removal of installations.

7.4.1.3 1972 London Convention The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Convention)[91] is regarded as one of the more successful conventions of the 1970s.[92]

The definition of 'dumping' in the London Convention, includes the disposal at sea of an offshore installation. The Convention defined 'dumping' as '... any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures'.[93] The London Convention prohibits the Contracting Parties from dumping certain wastes or other matter such as crude oil and high level radioactive waste.[94] However, certain other materials and waste, such as waste containing lead, copper and scrap metal, require a prior special or general permit.[95]

The definition of dumping in the London Convention corresponds to Article 1(5) of the LOSC.[96] The disposal at sea of waste or other matter incidental to, or derived from the operation of platforms or other artificial structures is excluded from this definition.[97] According to Article III (1)(c) of the London Convention 'the disposal of wastes or other matter directly arising from or related to the exploration, exploitation and associated offshore processing of seabed mineral resources will not be covered by the provisions of this Convention'.[98] The term 'other matter' is not clearly defined. It may include materials such as drilling mud.

Although, the disposal and dumping of offshore platforms is clearly defined as a kind of dumping by the London Convention and therefore requires prior permission, the issue of abandonment of offshore rigs and an alternative use for them is arguably not prohibited or subject to prior permission. Article III(1)(b)(ii) of the London Convention excluded from its definition of dumping, the 'placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention'. This Article may be interpreted to mean that the provisions of Article III(1)(b)(ii) permit alternative uses of oil rigs at sea such as utilising them as artificial reefs.[99]

The issue of offshore installations dumping was addressed in the 18th consultative meeting of contracting parties to the London Convention on 4-8 December 1995.[100] At this meeting, a proposal for a ban on offshore installations dumping was not agreed to. Instead, it was decided that, pending further development, the provisions of the London Convention and the IMO Guidelines on the disposal of offshore oil rigs should be applied by Contracting Parties in their national practice on a case by case basis.[101] The delegation from Denmark, who made the proposal, drafted a resolution requesting the Meeting 'to adopt a moratorium on the disposal at sea of decommissioned offshore installations until the London Convention 1972 had been amended with a view to banning the disposal of offshore installations at sea'.[102] Norway and the United Kingdom opposed the proposal, expressing their concern that the proposed moratorium lacked a scientific basis, and it would exclude one of several options for the disposal of offshore installations.[103]

Finally, the contracting parties adopted a new Protocol to the London Convention in November 1996.

7.4.1.4 The 1996 Protocol to the London Convention The Protocol to the Convention on the Prevention by Dumping of Wastes and Other Matters was adopted in a special meeting of the contracting parties to the London Convention 1972 in November 1996.[104] The objective of the Protocol includes the reduction and where practicable, the elimination of pollution caused by the dumping at sea of wastes and other matter.[105]

In comparison with the London Convention, the Protocol takes a more restrictive approach towards dumping.[106] However, the most notable aspect of the Protocol, particularly for the purpose of this study, is that the Protocol defines dumping and includes in its definition of dumping 'any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate disposal'.[107] This means that, unlike the London

Convention which arguably permitted the abandonment of installations without a permit,[108] the Protocol makes the abandonment of installations subject to permission by the owners or operators of the platform,[109] similar to the dumping of waste and other matter under the London Convention.[110]

Both the London Convention and its 1996 Protocol apply certain conditions for the issuance of permits for dumping.[111] However, the conditions required under the Protocol are more comprehensive than those of the London Convention. For example, the conditions required under the London Convention are related mainly to the physical nature of the material to be dumped and the dumping site.[112] Whereas, the Protocol provides a much more comprehensive list such as a waste prevention audit, the consideration of waste management options and an assessment of the potential effects of dumping.[113] The criteria required by the Protocol for the assessment of the potential effects of dumping on the sea[114] and marine life[115] are similar to those applied in the initial assessment required for the decommissioning of the Brent Spar oil rig.[116]

The 1996 Protocol to the London Convention is an international treaty, which had the legal issue of decommissioning oil rigs well on its agenda. While in 1972 offshore oil production was only in its initial stage of development, in 1996 it comprised a quarter of the world's oil production. Further, the usage of many oil installations is ending and their decommissioning process needs to begin.[117] The Protocol included the dumping and abandonment of oil platforms in its definition. It also has made dumping subject to far more restrictive conditions. However, difficulties with the issue of decommissioning oil installations remain in practice. Still, the decision of States parties as to whether or not permission should be given for disposal of a platform or leaving it on site may be the subject of controversy with either other States or environmental groups such as Greenpeace. However, the Protocol provides a monitoring system to verify the permit conditions[118] and an arbitral procedure to solve disputes relating to compliance with permit conditions.[119] This means that any party to the Protocol may request an arbitration process in the case of any disputes with another party.[120] The monitoring and arbitral system of the Protocol may work well in sole disputes between States and can have a great effect on the observation of permit conditions provided by the Protocol. However, the issue of disputes between environmental groups, States and oil companies still remains. Indeed the Brent Spar incident, which influenced the agenda of the Protocol, was a dispute between the Shell Company and Greenpeace. Notably, the issue of environmental assessment was an important point of contention between the Shell Company and Greenpeace.[121]

The significance of the Protocol, as already mentioned, is that it hints directly at the issue of oil rigs. This is obviously as a result of the increase in the number of oil rigs worldwide, the growth in the number of offshore

installations which are approaching the end of their working life time, and the influence of the Brent Spar incident. It also follows the approach of the 1982 LOSC and not the 1958 Continental Shelf Convention. However, the Protocol does not provide a comprehensive solution to the issue of decommissioning oil rigs. The long process of monitoring and the arbitral procedure may solve certain disputes between States but not with environmental groups who are the main claimants. The final comment on the provisions of the Protocol is that we must wait and see what effect it has, particularly in the North Sea Area.

7.4.1.5 IMO Guidelines Guidelines and standards for the removal of offshore installations and structures on the continental shelf and the exclusive economic zone were considered during the 55th session of the IMO Maritime Safety Committee in April 1988.[122] The final draft was approved at the 57th session of the Maritime Safety Committee in October 1989.[123] The IMO Guidelines correspond with Article 60(3) of the LOSC which refers to 'any generally accepted international standards established ... by the competent organisation'. The IMO Guidelines, like other Assembly resolutions on maritime safety, are simply a recommendation. The IMO Assembly resolutions may achieve mandatory force only by virtue of a link with some other instrument.[124] The IMO Guidelines do not derive mandatory force from Article 60(3) of the LOSC.[125] The IMO guidelines accept a case by case approach in relation to the removal of offshore platforms. They require the complete removal of all abandoned or disused installations or structures standing in less than 75 metres of water and weighing less than 4,000 tonnes in air, excluding the deck and superstructure.[126] Partial removal, such as cutting the tops off platforms to allow ships to navigate, and toppling the structure on to the seabed, would be for bigger structures in deeper waters, provided that there is clearance of at least 55 metres above the submerged remains.[127] The Guidelines require that the decision to allow an offshore installation, structure or part thereof to remain on the seabed should include a case by case evaluation by the coastal State of the following matters:

(1) any potential effect on the safety of surface or sub surface navigation, or of other uses of the sea;
(2) the rate of deterioration of the material and its present and possible future effect on the marine environment;
(3) the potential effect on the marine environment, including living resources;
(4) the risk that the material will shift from its position at some future time;
(5) the costs, technical feasibility, and risks or injury to personnel associated with removal of the installation or structures; and
(6) the determination of a new use or other reasonable justification for allowing the installation or structure or parts thereof to remain on the seabed.[128]

The Guidelines further provide that all new oil and gas production installations or structures installed offshore on or after 1 January 1998, must be designed so that they can be removed entirely at the end of their economic lives.[129] This requirement by the IMO Guidelines will eventually push a recommendation for total removal in a few decades when all offshore structures built before 1 January 1998 have reached the end of their working life.

The IMO Guidelines clearly followed the 1982 LOSC provisions, which permit the partial or even non-removal on a large scale. It requires a case by case approach in order to determine all the circumstances in which the coastal State may decide to allow an oil rig or part thereof to remain on the seabed.

In theory, this seems to be an objective approach as the Guidelines considered almost all the circumstances, including the effect of dumping, on navigation, the marine environment and even future risk. However, in practice it is onerous to follow all the instructions provided for by the Guidelines, as in many cases there may be inconsistencies between the various conditions required. For example, it is more than likely that a conflict between the potential effect of dumping on the marine environment and the costs associated with removal will occur. Many environmental activists and organisations such as the Friends of the Earth International (FOEI) and Greenpeace expressed strong concerns in relation to a number of the provisions of the IMO Guidelines as lacking proper technical standards for the removal of oil rigs.[130] For example, if the standards set by the IMO are accepted by the North Sea coastal States, all rigs in the southern North Sea at Morecambe Bay would have to be completely removed, while about 60 of the largest platforms in the central and northern North Sea could be dumped.[131] Greenpeace claims that the toxic and radioactive inventory of the installations could have a dire effect on marine life.[132]

7.4.1.6 Evaluation of Worldwide Conventions International treaties dealing with the issue of decommissioning oil installations can be divided into two groups. On the one side is the 1958 Geneva Convention which requires the total removal of disused offshore installations. On the other side are the 1982 LOSC, the 1972 London Convention and its 1996 Protocol and the 1989 IMO Guidelines and Standards which permit, under certain conditions, the partial removal of offshore platforms and the alternative uses for them. In the second group, the 1972 London Convention has permitted the dumping of oil rigs under certain conditions. However, oil installations are not dealt with as a separate issue. Rather this issue has only been included as part of the definition of dumping. Arguably, it also allows for alternative uses of platforms offshore. The 1982 LOSC has directly addressed the issue of the removal of oil installations and has permitted partial removal of the installations. Further, the LOSC has made the decommissioning of oil

installations subject to generally accepted international standards established by the competent international organisation. The IMO which is the competent organisation has provided its 1989 Guidelines and Standards. The IMO has taken a stricter position than the London Convention and the LOSC with respect to the removal of installations. The requirement that all installations built after 1 January 1998 must be designed so that they can be totally removed indicates that the IMO is seeking a way to impose an obligation for total removal in the future. When compared to the LOSC and the London Convention, the 1996 Protocol to the London Convention has taken a much more exacting position with respect to the issue of dumping offshore oil rigs at sea. It also provides a more comprehensive set of conditions, a monitoring policy and an arbitral process to handle the issue of the disposal of oil rigs, with greater care, for the protection of the marine environment, in particular.

Therefore, it is understood that, unlike the 1972 London Convention, more recent treaties such as the 1996 Protocol to London Convention and the 1989 IMO guidelines have taken a more restrictive approach to the disposal of oil installations at sea. Indeed the date of the category of international treaties which do not impose a duty on a State for the total removal of oil installations corresponds to the degree by which they impose duties upon States to remove disused oil rigs. In other words, the more recent treaties impose a far more demanding duty on a State for the total removal of oil installations. This leads to the conclusion that the current trend in international law is to impose more restrictions on the disposal of offshore installations at sea and finally to ban it.

7.4.2 Regional Conventions

7.4.2.1 1972 Oslo Convention The Oslo Convention for the Prevention of Marine Pollution by Dumping from Ship and Aircraft 1972[133] (ODC) applies to the Northeast Atlantic, the North Sea and the adjoining parts of the Arctic Ocean Area.[134] Based on Article 16 of the ODC a Commission was established to exercise overall supervision over the implementation of the ODC.[135]

Generally, the ODC adopts an approach similar to the London Convention with respect to the issue of dumping at sea.[136] The Convention defines dumping as 'any deliberate disposal of substances and materials into the sea by or from ship or aircraft'.[137] The Convention then describes 'ship and aircraft' as 'sea going vessels and airborne craft of any type whatsoever. This expression includes air cushion craft, floating craft, whether self propelled or not, and fixed or floating platforms'.[138]

As oil rigs are included in the definition of ship, the Convention explicitly applies to the dumping of materials and wastes from oil. The question here is, does the Convention apply to the dumping of disused or abandoned oil rigs? According to Article 6 of the Convention, certain materials and

substances listed in Annex II of the Convention may be dumped at sea only by special permit, in each case, from the appropriate national authority or authorities. Among the substances and materials listed in Annex II of the Convention are containers, scrap metal, tar-like substances liable to sink to the sea bottom, and other bulky wastes which may present a serious obsteele to fishing or navigation.[139] One could say that oil rigs would fall under the term 'bulky wastes', and therefore their dumping requires special permission.[140] Therefore, it follows that they should only be deposited in deep water.[141] This should be done only when the following two conditions have been met: that the depth is not less than 2,000 metres, and that the distance from the nearest land is not less than 150 nautical miles.[142] Although categorising oil platforms as a kind of 'bulky wastes' may seem possible, the overall purpose of the ODC does not appear to apply to oil rigs. This can be understood from the title of the Convention which states 'International Convention for the Prevention of Marine Pollution from Dumping from Ship and Aircraft'. The usual method of disposing of a platform at sea is not from a ship or aircraft. This view was also expressed by the UK. At the 13th session of the Oslo Commission (1987), the Government of the United Kingdom stated that according to its interpretation of the ODC, it does not apply to the disposal of oil rigs.[143]

7.4.2.2 1992 Oslo and Paris Convention (OSPAR) The 1992 OSPAR Convention and the 1974 Paris Conventions were discussed in Chapter 6.[144] At this point, only the provisions of the OSPAR Convention relating to the decommissioning of oil installations will be discussed.

The OSPAR Convention defines "'dumping' as any deliberate disposal in the maritime area of wastes or other matter from offshore installations and any deliberate disposal in the maritime area of offshore installations and offshore pipelines".[145] Indeed the OSPAR Convention, like the 1996 Protocol to the London Convention, directly included oil installation in its definition of dumping. This means that the disposal of oil installations at sea is a subject of the OSPAR Conventions' provisions. However, the Convention provides that dumping does not include 'the leaving wholly or partly in place of a disused offshore installation or disused offshore pipelines, provided that any such operation takes place in accordance with any relevant provision of the Convention and with other relevant international law'.[146] This appears to exclude alternative uses of installations from the definition of dumping. However, the alternative use of platforms requires permission from the authorities of the relevant Contracting Parties.[147] The Convention provides that a Commission, made up of the representatives of each Contracting Party, is to be established to supervise the implementation of the Convention.[148] This Commission is to establish applicable criteria and procedures for allowing the placement of disused offshore installations at sea with a view to preventing and eliminating pollution.[149]

The OSPAR Convention permits the dumping of abandoned and disused offshore platforms.[150] The Convention has followed a number of other conventions, such as the 1982 LOSC and the 1996 Protocol to the London Convention in its acceptance of the case by case approach. Article 5(2) of the Annex III of the OSPAR Convention further provides that:

> No such permit shall be issued if the disused offshore installation or disused offshore pipeline contains substances which result or are likely to result in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

This means that if such platforms contain no substances which would result in or are likely to result in, hazards to human health and harm to marine biota, or they do not interfere with other legitimate uses of the sea, it is permissible to dump and dispose of them at sea. The Convention does not add anything to the existing Convention and also lacks worldwide affirmation.

However, the 1998 OSPAR Commission Ministerial Meeting, which was held in conjunction with the 1998 Annual Meeting of the Commission,[151] produced a result known as the 'OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations' (hereafter the Decision) which made the decommissioning of oil platforms subject to new regulations.[152] The Decision recognised that the rescue, recycling or final disposal on land of offshore installations is to be the generally preferred option for the decommissioning of offshore oil platforms.[153] Accordingly, the Decision provides that 'the dumping and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited'.[154] This appears to be the final word of one the most important regional Conventions' Ministerial decisions to end the disputes about the way in which oil rigs, particularly those in the North Sea, must be decommissioned. However, that is not the case. The decision in its next paragraph[155] excludes a number of dumping and disposal at sea options from its general principle of beginning the dumping of oil installations. The Decision provides that under certain conditions[156] if the competent authority of the relevant Contracting Party is satisfied that there are significant reasons to prefer a disposal option at sea over recycling or final disposal on land, it may issue a permit for:[157]

a. all or part of the footings of a steel installation[158] in a category listed in Annex 1,[159] placed in the maritime area before 9 February 1999, to be left in place;
b. a concrete installation in a category listed in Annex 1 or constituting a concrete anchor base, to be dumped or left wholly or partly in place;
c. any other disused offshore installation to be dumped or left wholly or

> partly in place, when exceptional and unforeseen circumstances resulting from structural damage or deterioration, or from some other cause presenting equivalent difficulties, can be demonstrated.

The Decision further provides that any permit for dumping wholly or partly at sea shall accord with the requirements of Annex 4.[160] Annex 4 is entitled 'Permit Conditions and Reports'. It requires that permits issued in accordance with paragraph 3 of the Decision must specify the terms and conditions under which the disposal at sea may take place.[161] The Annex requires that every permit, among others, shall 'specify the owner of the parts of the installation remaining in the maritime area and the person liable for meeting claims for future damage caused by those parts(if different from the owner) and the arrangements under which such claims can be pursued against the person liable'.[162]

The OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations is the latest effort by the European Community to create a balance between public concerns with respect to environmental issues and the economic impact of disposing of oil platforms. The Decision places further restrictions and provides more conditions in relation to the dumping of oil rigs at sea. Although, the Decision provides conditions for the disposal of platforms at sea which reasonably consider the preservation of the marine environment, we will have to wait to see whether or not the disposal of platforms at sea, based on the provisions of the Decision, can meet the public demand in relation to the preservation of the marine environment.

7.4.2.3 Proposed Arctic Dumping Protocol The Arctic Dumping Protocol[163] was proposed as a complementary document to cover deficiencies in the provisions of the London Convention in relation to dumping in the Arctic.[164] Article 3 defines the term 'dumping' as any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man made structures at sea and deliberate disposal at sea of vessels, aircraft, platforms or other man made structures at sea.[165] For certain purposes, such as the security and safety of human life or ships, aircraft, or offshore installations, or in the case of *force majeure* caused by weather, dumping may be permitted.[166]

The proposed Protocol includes three Annexes which have been compiled from both the London Convention and the Oslo Dumping Convention.[167] Annex I contains the 'black list' which includes substances such as mercury and mercury compounds, crude oil, fuel oil, heavy diesel oil, and lubricating oils. The dumping at sea of these kind of wastes is prohibited.[168] Annex II contains the 'grey list' which are substances such as waste containing significant amounts of arsenic, lead, copper, cyanides, fluorides, pesticides and those by-products not covered in Annex I. These require special care and a special permit prior to and for the dumping.[169] Finally, Annex III provides

the criteria. These include the characteristics of dumping sites, and the method of deposit to be considered in relation to permission for dumping.[170]

As can be seen, the Protocol includes oil platforms in its definition of 'dumping'. Further, many materials used in the construction of oil rigs or related to oil platforms, such as any mixtures containing oil substances, have been included in the black list substances.

7.4.2.4 1976 Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona Convention)[171] This Protocol defines ships to include 'platforms and other man-made structures at sea and their equipment'. Therefore, it covers dumping from platforms and their equipment. However, it does not say anything about the dumping and disposal of the platforms themselves.

This Protocol was concluded in 1976 to prevent pollution of the Mediterranean Sea resulting from the dumping of wastes from ships and aircraft. Like many international treaties which were concluded in 1960s and 1970s it does not cover the issue of the dumping of oil platforms at sea. At the time there were a limited numbers of oil rigs operating offshore. The issue of the disposal of oil rigs at sea and its environmental affects was not a real issue at the time. However, as mentioned, the Protocol covers the dumping of wastes at sea from oil rigs.

7.4.2.5 The 1988 Kuwait Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf The 1988 Protocol, concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf, to the 1978 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution, permits partial removal of offshore oil rigs. According to Article XIII (1)(b) State parties must ensure that the Competent State Authority has the power to require the operator of an offshore installation 'in the case of platforms and other seabed apparatus and structures, to remove the installation in whole or in part to ensure the safety of navigation and in the interest of fishing'. The Protocol, in determining whether or not installations must be removed, in any particular case, provides that Contracting States shall have regard to any guidelines issued by the regional Organisation.[172] The meaning of the term 'regional Organisation' is not clear. The only known regional Organisation is the Gulf Cooperation Council (GCC) which includes all the coastal countries of the Persian Gulf except Iran and Iraq. The GCC has not yet issued any guidelines.

Contracting States shall also take all practical steps to enforce measures to ensure that no offshore installations, which when in use floated at or near the sea-surface, and no equipment from offshore installations, shall be deposited on the seabed of the continental shelf when they are no longer

used.[173]

The Kuwait Protocol has basically followed the LOSC model in relation to the removal of offshore oil platforms. It accepts the possibility of partial removal. The issue of the decommissioning of offshore oil rigs was not an important issue in the Persian Gulf area. Partly, because unlike the North Sea area, public opinion in the coastal countries of the Persian Gulf is not concerned with the issue of the marine environment. Further, there have been several wars and other conflicts between the coastal states of the Persian Gulf which caused a number of environmental disasters. These conflicts and their environmental consequences have overshadowed the issue of the decommissioning of oil platforms.

7.4.2.6 The 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region The Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, which applies to the South Pacific Region, requires the Contracting Parties to take all appropriate measures to prevent, reduce and control pollution caused by dumping from vessels and man-made structures at sea.[174] It defines dumping as including any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea and any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea.[175]

The 1986 Protocol does not cover the issue of the decommissioning of oil platforms. However, the issue of the disposal of wastes and other matter from an oil rig is covered by the Protocol.

The 1986 Protocol for the Prevention of Pollution of the South Pacific Region by Dumping provides that dumping within the territorial sea and the exclusive economic zone or onto the continental shelf of a Party shall not be carried out without the express prior approval of that Party, which has the right to permit, regulate and control such dumping.[176]

7.4.2.7 Comments on Regional Conventions The regional treaties which do have provisions with respect to the disposal of oil platforms can be divided into three categories. The first category only covers pollution from oil installations and does not mention the disposal of oil platforms. The 1979 Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona Convention) can be placed in this category. The second category follows the style of the LOSC with respect to the decommissioning of oil rigs. These treaties follow a case by case approach and permit the partial removal of oil platforms. The 1972 Oslo Convention, the 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, and the 1988 Kuwait Convention belong in this category. The third category follows the 1996 Protocol to the London Convention. These permit partial removal of oil platforms but this is subject to strict conditions, including environmental assessment requirements. The 1992 OSPAR Convention and its 1998 Decision (the 98/Decision) can be placed in this category. The 1992 OSPAR Convention attempts to create a balance between the economic aspects of the disposal of oil rigs and the environmental requirements. The 1998 OSPAR Decision was concluded after the Brent Spar incident and minimised the partial removal option.

7.4.3 Domestic Legislation and State Practice

The law and practice of a number of major offshore oil producers namely Australia, the UK and Norway will be discussed here. The UK and Norway are the major offshore producers in the North Sea.

7.4.3.1 United Kingdom The UK is a party to the 1958 Continental Shelf Convention, the 1972 London Convention, the 1972 Oslo Convention, the 1982 LOSC and the 1992 OSPAR Convention. Since the UK is a party to the 1982 LOSC and because the provisions of the LOSC prevail over the 1958 Continental Shelf Convention[177] the British Government is not under any international treaty obligations to entirely remove its oil rigs.

The issue of dumping is considered by specific legislation in the United Kingdom. The Prevention of Oil Pollution Act 1972, which controls discharges of oil, the Control of Pollution Act 1974, regulating the disposal of special wastes, and the Food and Environmental Protection Act 1985, which controls dumping at sea and the Radioactive Substance Act 1993 are examples of such legislation.

The issue of the decommissioning of oil installations is covered by the Petroleum Act 1987 and the Environmental Protection Act 1990. The 1987 Petroleum Act is a comprehensive piece of legislation which regulates the abandonment of all offshore installations. The 1987 Act provides that the Secretary of State may call for an abandonment plan to be submitted for the decommissioning of oil platforms.[178] The Secretary of State may approve the submitted abandonment plan, conditionally or unconditionally, or may reject it.[179] When an abandonment plan is approved, those to whom the licence is issued are jointly and severally liable for the execution of the plan.[180]

The economic cost of decommissioning is addressed by the 1987 Petroleum Act. According to Section 10 of the Act the Minister may require of any person on whom a notice, under Section 1, has been issued to provide details of their financial situation. Failure to provide the requisite financial information or the giving of false information is an offence.[181] The Minister may ask the party to take certain actions to ensure that the decommissioning costs will be met.[182] The Minister may make regulations with respect to the decommissioning of offshore installations and pipelines which should

address the following matters:

- prescriptions of standards and safety requirements for the dismantling and removal of installations and pipelines;
- prescriptions of standards and safety requirements covering any remains of platforms or pipelines;
- make provisions for the prevention of pollution.[183]

The United Kingdom legislation and practice, in determining a preferred decommissioning option, follows a case by case approach. Guidelines were issued by the Department of Trade and Industry(DTI) on 4th August 1995 entitled 'Guidance Notes for Industry: Abandonment of Installations and Pipelines under the Petroleum Act 1987'. The Guidelines follow the case by case approach to achieve a balanced abandonment solution consistent with international obligations, environmental concerns and cost considerations.[184]

The UK practice shows that the Government has tried to achieve a balance between environmental concerns and the economic impact of the decommissioning of offshore oil platforms. The UK practice is based on a comprehensive abandonment policy.[185]

The North Sea is one of the first offshore areas to experience the exploration and exploitation of petroleum. Therefore, a number of oil rigs are no longer used and are ready for decommissioning. By the year 2005, sixty five platforms will have to be withdrawn from service as a growing number of the oil fields reach the conclusion of their productivity.[186]

British companies, according to a spokesman for the UK Offshore Operation Association, own 219 large structures in the North Sea out of a total 416, including 155 fixed platforms, weighing in total about 5 million tonnes, surrounded by unquantified amounts of other debris and oil-based pollution.[187] Over the next decade, more than 50 large British oil rigs will be disused and will need to be decommissioned at a cost of £2.25 billion.[188] It is estimated that the cost of removing all 416 platforms in the North Sea, which are British, Norwegian, Danish and Dutch, will cost about £6 billion.[189£]

Approximately nine small floating platforms were entirely removed from the North Sea between 1978 and 1994.[190] The 16,000 tonne Brent Spar was the 10th and the largest.[191] In March 1995, Shell, a joint Dutch-British corporation, planned to dump the Brent Spar rig in the North Sea. The British Minister for Energy, Tim Eggar, approved the plan for Shell to dump the Spar in the deep Atlantic, more than a mile down and at least 155 miles off the west coast of Scotland.[192]

The views of other governments and environmental organisations were different. Both the European Parliaments' Environment Committee and the European Commissions' Environment Directorate opposed the Shell plan to dispose of the Brent Spar oil rig at sea.[193] The Environment Commissioner for the European Union, Ritt Bjerregaard, said: 'If we allow the dumping of oil installations, we send a political signal that the sea may be used as a rubbish dump'.[194] The greatest opposition came from Greenpeace. A number of activists from six North Sea countries pulled their operations together. They climbed up the structures' steel ladders and occupied the rig. Following the incident, environmental activists in the Netherlands and Germany organised a boycott of Shell service stations.[195]

Oil firms, companies and a number of independent scientists argued that the sinking of the Brent Spar structure would not damage the marine environment if the rig was cleaned out beforehand.[196] They further contended that towing platforms onshore may wreak greater environmental havoc than if they were left far out at sea. Shell even launched a Brent Spar site on the Internet to encourage people to debate.[197] However, public opinion did not change overnight, and more objections came from both people and governments across Europe. Greenpeace protesters kept up their running battle with Shell. Finally, Shell surrendered to the Greenpeace campaign in June 1995 and decided to dismantle the Spar rig on land. A year after the incident, Shell planned to hold a conference including as many as 200 interested groups in order to discuss the various alternatives, to weigh them up and to choose the best option available to them.[198] Finally, Shell decided to use the Brent Spar as a roll-on, roll-off ferry terminal.[199]

The victory of Greenpeace in its campaign against Shell dissuaded other oil companies from dumping oil rigs in the North Sea. After the Brent Spar, it would have taken a brave oil executive to recommend disposal at sea, especially in European waters.[200] The European Union Commissioner for the Environment, at a press conference in June 1995, said the Brent Spar case 'is a great victory for the environment.[201] I am currently examining ways to move further in the direction of an international ban on dumping of offshore installations in the open sea'.[202]

Following the Brent Spar case, the German Environment Minister Angela Merkel signalled to North Sea oil producers, and other polluting industries, that environmental issues in Germany have moved from the fringes of society into the mainstream and that ignoring this movement could be costly.[203] A year after the public outcry forced Shell to abandon its plans to dump the Brent Spar oil rig in the Atlantic, Greenpeace stated that there were plans to dump 15 oil rigs in the North Sea. Greenpeace released a statement which said that one of its ships had set off for a tour of the rigs to put pressure on oil companies to employ a more environmentally friendly way of disposing of the oil platforms.[204]

The decision of the Shell Company and the permission of the British Government to dispose of the Brent Spar at sea was not against either international law or British law. The incident demonstrates that compliance with legal requirements and scientific evidence is not enough. Public opinion,

which is mainly concerned with environmental issues, is of great importance. This means that the UK Government and other European countries will have to satisfy not only the legal requirements but also general public opinion. The Brent Spar put the issue of decommissioning on top of the agenda in both British and international law.

Although the UK based its domestic legislation on its international treaty obligations, the domestic pressure, resulting from the Brent Spar incident, and the pressure from other European countries imposed extra duties on the British Government with respect to the decommissioning of offshore oil rigs.

7.4.3.2 Norway The basic rules for the disposal of offshore oil platforms are laid down by the Royal Decrees of 9 April 1965 and 8 December 1972. According to section 50 of both decrees, the Ministry may direct the licensee as to the removal of the offshore installation. The Pollution Act 1984 regulates the disposal of special waste. It also requires a public impact study of the consequences of disposal. The Petroleum Act 1985 provides guidelines for abandonment plans which require Parliaments' final approval. The Safety Regulations 1985 requires government approval for the removal of an offshore installation. There are additional regulations in relation to the decommissioning of offshore oil platforms in the 1985 Law on the Cost Sharing of Abandonment, the 1990 Norwegian Petroleum Directorate Guidelines and the Pollution Regulations 1994.

The Norwegian approach, concerning the decommissioning of oil platforms is very similar to the UK practice. The legislation gives authority to the Ministry to direct the licensee as to the removal of platforms. However, the criteria for granting the licence is not clear in the legislation.

There are two practical examples of Norwegian Government practice in relation to the decommissioning of oil rigs. These are the Northeast Frigg and Odin rigs.

Since the Brent Spar incident, British and Norwegian operators have slated a number of small platforms for abandonment without causing an outcry.[205] Norway's Ministry of Industry and Energy approved the plan for the decommissioning of the Northeast Frigg in 1996.[206] The Northeast Frigg, was developed using a six well subsea manifold tied back to a Frigg TCP2 platform.[207] It also uses a 150m Articulated control tower to govern well operations.[208] The North East Frigg gas field, discovered in 1974, was the first subsea field on the Norwegian Continental shelf.[209] This operation ended on 8 May 1993. The facilities of the Northeast Frigg are to be reused where possible, its wellhead template will be resmelted, and the quarters and work deck will be moved to a safety training centre.[210] The Norwegian Government has agreed to allow the steel articulated column to be laid on a bed of rock in order to form a breakwater at a new marina near Stavanger.[211]

The Odin rig is a conventional steel structure installed on Block 30/10a in 103m of water.[212] It has a steel jacket of 6,000 metric tones with a top side weighing 7,600 metric tons.[213] The Odin rig produced 30 billion cu m of gas over 10 years.[214] Esso, Odins' field operator, originally proposed to dump the platform into the North Sea.[215] The company submitted a decommissioning plan in March 1995, proposing the removal of the platform's topside, and then toppling the steel jacket to make an artificial reef.[216] Surprisingly, the Norwegian Government rejected Essos' proposal by insisting that the Odin platform, which stopped producing in August 1994, should be completely removed. However, the Norwegian Ministry added to its statement that this decision does not rule out the possibility of offshore disposal in the future.[217]

On 8 March 1996, Greenpeace cheered the Norwegian Government's decision to reject Esso's proposal to dump the 700 tonne steel jacket of its Odin rig into the North Sea and urged the Norwegian Government to pass legislation ensuring that all oil and gas installations are decommissioned on land.[218] Greenpeace also criticised the Norwegian and the UK Governments for refusing to join the vast majority of nation members of the OSPAR Commission against the dumping of all offshore installations at sea.[219]

7.4.3.3 Australia Australia is a party to the 1958 Geneva Conventions on the Law of the Sea and the 1982 LOSC, a party to the 1972 London Convention and the 1996 Protocol to the London Convention. Australia is also a party to the 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region. Furthermore, Australia has entered into a number of bilateral treaties such as the Timor Gap with Indonesia (1989).

Australia, for the same reason as the UK,[220] is not under an obligation to remove its oil platforms entirely when they reach the end of their economic life.

In Australia there are almost 80 Commonwealth and State Acts that affect environmental management planning. The offshore industry in Australia must comply with most of these Acts. A number of these Acts regulate activities associated with petroleum exploration and production.[221] A few others deal with the legal issues concerning oil installations.[222] There are a number of State and Commonwealth Acts which regulate the issue of dumping at sea including the dumping of oil rigs. These include the Environment Protection (Sea Dumping) Act 1981 (Cth), the 1984 Environment Protection (Sea Dumping) Act of South Australia and the Tasmanian Environment Protection (Sea Dumping) Act 1987.

The Environment Protection (Sea Dumping) Act 1981 implemented the 1972 London Convention. According to Section 6, this Act is applicable within and outside Australia and binds the Crown,[223] but not Defence Force Ships and platforms nor is it binding on the naval, military or air force of a

foreign country.[224] Dumping a vessel, aircraft or platform[225] into Australian waters is prohibited.[226] It is an offence to dump an Australian platform into any part of the sea.[227] Dumping a vessel, aircraft or platform into any part of the sea from an Australian vessel, Australian aircraft or Australian platform is also prohibited.[228]

It is a defence to the charge if the dumping is carried out pursuant to a permit granted in accordance with the Convention by a country (other than Australia) that was a party to the Convention if the act is not carried out in Australian internal waters or on the Australian continental shelf.[229] It is a defence to a charge of an offence if the dumping was necessary to secure the safety of human life, of a vessel, aircraft or platform, at sea in a case of *force majeure* caused by stress or weather.[230] It is also a defence if the dumping appeared to be the only way to avert a threat to human life or to the safety of a vessel, aircraft or platform, at sea, and there was every probability that the damage caused by such dumping would be less than would otherwise occur, and in either case, that the dumping was so conducted as to minimise the likelihood of damage to human or marine life, and a report of the dumping was furnished to the Minister as soon as practicable after the occurrence of the dumping.[231]

Australian law does not address the issue of the decommissioning of offshore oil rigs in detail. However it addresses the issue of decommissioning in a number of legislative acts as part of the issue of dumping at sea. Although Australian law imposes a strict duty in relation to disposal of oil rigs it does not cover the issue of decommissioning in detail. This is partly based on the fact that most Australian oil rigs are medium size platforms operating in shallow coastal waters. The bigger oil platforms fixed on the continental shelf of Australia have not reached the end of their economic life. Australian law will have to address the issue of the decommissioning of oil rigs in due course. Public opinion in Australia, similar to the European countries, is concerned about the impact of the decommissioning of oil rigs on the marine environment.

On 23 December 1998 the Australian Minister for the Environment announced Australias' Ocean Policys' plan which includes the development of a Policy on the decommissioning and disposal of offshore oil platforms.[232] This indicates that Australian Government is well aware of the issue of decommissioning of oil rigs and its importance for the protection and management of Australian waters.

7.4.3.4 Analysis of State Practice The United Kingdom law and practice follow the case by case approach in relation to the decommissioning of offshore oil rigs. Indeed the UK national law takes a similar approach to the LOSC. British law and its relevant regulations try to achieve a balance between the economic cost of decommissioning, environmental considerations and public concern. The UK and Norway are the only European nations which in recent years have resisted a total ban on the offshore disposal of oil platforms. The main reason behind the UK's position appears to be the significant extra cost to the British Government and companies if they are required to dispose of all their platforms onshore.

Norwegian law also follows the case by case approach, similar to the UK position and the LOSC. Norway, like the UK, refuses to join the vast majority of members of the OSPAR Commission against the dumping of oil platforms at sea.

Australia, a major offshore producer, with almost 90 percent of its oil reserves offshore, is in a completely different position from Norway and the UK and indeed with the rest of the offshore oil producing countries. Australian law not only prohibits the dumping of oil platforms in Australian waters, but it also criminalises the disposal of Australian oil rigs in any part of the sea, including the high seas beyond Australian national jurisdiction. The Australian legal position regarding the decommissioning of oil rigs does not appear to be as a result of a specific event, such as the Brent Spar incident, or public concern. Indeed, the issue of the decommissioning of fixed oil platforms, particularly large platforms, has not been raised in Australia so far for a number of reasons. Firstly, the offshore oil industry in Australia is of recent origin (about 25 years). Consequently, not many oil rigs have reached the end of their economic lives. Secondly, Australian offshore oil production to date has taken place by means of mobile small and medium size oil rigs. Removal and disposal of this kind of platform is easier and less costly than the large oil platforms. Furthermore, the main offshore oil resources in Australia are in the water close to the coast.[233] Hence, the removal of disused rigs to shore is much easier than those platforms which are placed far from the coast.

It is very unlikely that in future the Australian offshore oil industry will be able to put through any amendments to the current law. At this time, Australia has one of the most environmentally safe national law regimes with respect to the decommissioning of oil rigs. It should be noted that Australian law does not ban any alternative uses for installations. Therefore, using disused offshore rigs as artificial reefs is legal under Australian law.

Generally the practice of States with respect to the decommissioning of oil rigs does not follow a united approach. However, it can be concluded that most national laws follow the 1982 LOSC case by case approach.

7.5 Conclusion

The position in international law as regards the decommissioning of oil rigs is not clear. There is an inconsistency between the provisions of the 1958

Geneva Conventions on the Law of the Sea and the 1982 LOSC. Although the 1958 Convention on the Continental Shelf clearly placed an obligation on the coastal State to remove entirely any abandoned or disused installations from its continental shelf, certain major offshore oil producers, by taking into account the general rules of treaty interpretation and changes of circumstances, have tried to reduce the strict rules of the Continental Shelf Convention. However, before any major practical issue on the international level could come to light, the LOSC was concluded in 1982 and came into force in 1994. The LOSC provides a more flexible duty for the removal of offshore installations and permits partial removal of offshore installations. The 1989 IMO Guidelines followed the 1982 LOSC provisions and requires a case by case approach. It gave each state some discretion in deciding the fate of decommissioned oil rigs in their waters. The fact that the IMO Guidelines provide that all new oil and gas production installations or structures installed offshore on or after 1 January 1998, must be designed so that they can be removed entirely at the end of their economic lives, is an indication that in a few decades, the total removal of offshore oil rigs may become a principle of International law. The 1972 London Convention also does not ban the dumping of oil platforms at sea. However, the 1996 Protocol to the London Convention makes the abandonment of installations subject to permission being obtained by the owners or operators of the platform. The Protocol, concluded after the Brent Spar incident, makes the decommissioning of oil rigs subject to a long process of monitoring and arbitral procedures.

None of the regional Conventions completely prohibit the dumping of oil platforms at sea. The OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations, produced in the 1998 OSPAR Commission Ministerial Meeting, is the latest effort by the European countries to legally restrict offshore disposal of oil rigs. The OSPAR Decision makes the dumping at sea of oil rigs subject to a variety of strict conditions. It is not clear whether or not the provisions of this Decision will resolve the environmental and economic issues attached to the decommissioning of the more than 500 oil rigs in the North Sea.

The legislation and practice of the States which are the major offshore oil producers favours the case by case approach (exceptionally, Australian law imposes a total removal duty). Since the Brent Spar incident both companies and governments have been attempting to delay the decommissioning of the big oil platforms in the North Sea when abandonment occurs. The call of certain European countries to put an international ban on the disposal at sea of oil installations, and the increase in public concern against the offshore disposal of oil rigs, is an important factor in the determination of the decommissioning policy in future. A decision by the European nations to ban the dumping at sea of offshore

steel oil rigs in July 1998[234] is an example of the growing concern regarding the disposal of oil installations offshore.

It can be concluded that the trend in international law is to impose more restrictions on the disposal of offshore installation at sea and finally ban it. Indeed, the date of the category of international treaties which do not impose a duty on a State for total removal of oil installations corresponds to the degree which they impose duties upon States to remove disused oil rigs. (except the 1958 Geneva Convention on the Continental Shelf). In other words the more recent treaties impose a more restrictive duty on a State for the total removal of oil installations.

Decommissioning requires a reasonable balance between environmental issues, economic impact and public concern. It appears that total removal and the alternative usage of disused oil rigs remain the best options from the viewpoint of the environment and public concern. However, these alternatives are costly.

To solve the legal issues surrounding the decommissioning of oil rigs it should be addressed in a comprehensive international treaty. Provisions of such a treaty would need to be more comprehensive than the IMO Guidelines and with more detailed provisions directed to the option on the alternative usage of offshore oil rigs.

Notes

1. LOSC, Art 60(3).
2. See this Chapter, Section 7.4.1.5 below.
3. *Oil and Gas Journal*, 27 November, 1995.
4. *Time*, 3 July, 1995.
5. *The Economist* (US) 20 July, 1996.
6. LOSC, Art 1(5)(a)(ii).
7. JM Macdonald, 'Artificial Reef Debate: Habitat Enhancement or Waste Disposal?' (1994) 25 *ODIL* 87 at 94.
8. *The Economist* (US) 20 July, 1996.
9. UKOOA, An Assessment of the Environmental Impacts of Decommissioning Options for Oil and Gas Installations in the UK North Sea (1995) (viewed February 2001) at: *http://www.ukooa.co.uk/auris.html*.
10. The BPEO is the abbreviation of 'the Best Practicable Environmental Option'.
11. *Oil and Gas Journal*, 3 June, 1996.
12. See this Chapter, Section 7.4.3.1 below.
13. *Modern Plastics*, October, 1995.
14. *Ibid.*
15. *Ibid.*
16. *The Guardian Weekly*, 8 February, 1998.
17. The International Offshore Oil and Natural Gas Exploration and Production Industry, Decommissioning Offshore Oil and Gas Installations: Finding the Right Balance, a

discussion paper from the international oil and natural gas exploration and production industry (1995) (viewed February 2001) at:
http://www.ukooa.co.uk/balance.html.

18. *Engineer*, 9 March, 1995.
19. See this Chapter, Section 7.4.1.1 below.
20. Greenpeace, No Ground for Dumping, the Decommissioning and Abandonment of Offshore Oil and Gas Platforms, a report by Simon Reddy with an Executive Summary by Greenpeace International (1995) (hereinafter Greenpeace) pp 29 and 32.
21. *Ibid*, p 33.
22. For the study of the issue of the alternative uses of offshore oil rigs see: CS Johnston and J Side, Alternative Use of Offshore Installation: Final Report on SERC Fund Study, Heriot Watt Institute of Offshore Engineering, Edinburgh (1985) 84 and AF Alaydrus et al, 'Salvaging and Reusing Jacket and Deck Structures of Offshore Platforms' (1995) 1 *Journal of Infrastructure Systems* 178 at 18.
23. S Makabady, 'Decommissioning of Offshore Installations' (1997) 28 *JMLC* 603 at 603.
24. *The Guardian Weekly*, 8 February, 1998.
25. *Ibid*.
26. AF Alaydrus et al, note *supra*, at 179.
27. *Ibid*.
28. *Ibid*.
29. P Robinson, 'Decommissioning Oil and Gas Fields Abandonment Options' in *Petroleum*, Vol 8 no 4, April, 1992, p 38.
30. Greenpeace, note *supra*, p 29.
31. *Ibid*.
32. *Oil & Gas Journal*, 3 June, 1996.
33. JM Macdonald, note *supra*, at 93; *Petroleum*, April, 1992, Vol 8, p 36.
34. For the historical background on the creation of artificial reefs see: Rigs to Reefs, *Offshore*, November, 1986 at 28.
35. The International Offshore Oil and Natural Gas Exploration and Production Industry, Decommissioning Offshore Oil and Gas Installations: Finding the Right Balance (1995).
36. *Ibid*.
37. *Ibid*.
38. For more information in relation to impact of artificial reefs on the fishing industry see: S Chang, 'Use of Obsolete Oil and Gas Platforms as Artificial Reefs' (1987) 36 *Oil and Gas Tax Quarterly* 329 at 330-333.
39. M De Silva, Artificial Reefs: a Practical Means to Enhance Living Marine Resources (1989) in Chua Thia-Eng and D Pauly, *Coastal Area Management In Southeast Asia* 173 at 173-174.
40. Greenpeace, note *supra*, p 8.
41. *Ibid*.
42. T Tomalin, 'The Artificial Reef Debate' *St Petersburg Times*, April 28, 1991, at 1C.
43. Greenpeace, note *supra*, p 33.
44. *Ibid*, pp 38-39.
45. *Ibid*, p 39.
46. *Ibid*.

47. For example, according to the UK Offshore Operators' Association, the complete removal of all UK offshore installations would cost 4.4 billion pounds whereas partial removal would cost 2.9 billion pounds. (*The Guardian*, May 10, 1995).
48. *Oil & Gas Journal*, June 3, 1996.
49. Greenpeace, note *supra*, p 39.
50. R Higgins, 'Abandonment of Energy Sites and Structures: Relevant International Law' in International Bar Association Series, *Energy and Resource Law* 92, Graham & Trotman (1992) 255 at 255.
51. *Ibid* at 256.
52. *Ibid* at 255.
53. The 1958 Convention on the Continental Shelf, Art 5 (5).
54. T Ijlstra, 'Removal and Disposal of Offshore Installations' (1989) 1 *Marine Policy Report* 269 at 270.
55. Art 3 of the Norwegian Petroleum Act of 1985 provides for the decommissioning of offshore installations but does not contain an express removal obligation (T Ijlstra, 'Removal and Disposal of Offshore Installations' (1989) 1 *Marine Policy Report* 269 at 270) but it has been said that 'it was presumed in the preliminary work on the law that installations whose definitive usefulness has ceased should be removed'. (O Fjellsa, 'Decommissioning and Removal of Offshore Structures: The Norwegian Position and Consequences' (1988/1989) 5 *OGLTR* 137 at 138.
56. It has been said that the land option for dismantling of most deep-water platforms will cost $100-200 million. See *The Economist* (US), 20 July, 1996 p 52.
57. ED Brown, 'Decommissioning of Offshore Structures: Legal Obligation under International and Municipal Law' (1982) 1 *Oil and Petrochemical Pollution* 23 and PV McDade, 'The Removal of Offshore Installations and Conflicting Treaty Obligation as a Result of the Emergence of the New Law of the Sea: A Case Study' (1987) 24 *San Diego LR* 645.
58. RW Bentham, 'The Abandonment of Offshore Installations in the North Sea' in International Bar Association Section on Energy and Natural Resources Law, *Energy Law '86* (1988) 837; M David and N Bremner, 'Legal Aspects of the Removal of Offshore Installations' (1983) 2 *OGLTR* at 26 and P Peters et al, 'Removal of Installations in the Exclusive Economic Zone' (1984) 15 *Netherlands Yearbook of International Law* 167.
59. Doc A/CONF 13/C4/L28, 21 March, 1958.
60. Doc A/CONF 13/C4/L48, 31 March, 1958 as discussed in P Peters et al *ibid* at 170.
61. P Peters et al *ibid*.
62. RW Bentham, note *supra*, at 843.
63. Art 62 of the Vienna Convention on the Law of Treaties is entitled 'Fundamental Change of Circumstances'.
64. RW Bentham, note *supra*, at 845.
65. *Ibid* at 845.
66. Art 5(5).
67. PV McDADE, note *supra*, at 659.
68. P Peters et al note *supra*, at 170.
69. See Chapter 2 above.
70. For the meaning of the principle of change of circumstance see, DP O'Connell,

International Law, Stevens & Sons (2 1970) Vol I, p 278; R Jennings And A Watts, *Oppenheims' International Law*, Longman (9 1992) pp 1304-1309.

71. See this Chapter, Section 7.4.1.2 below.
72. LOSC, Art 60(3).
73. UN Document A/CONF 62/WP8/Part and Art 48(3) of the 'ISNT'.
74. C.2/Informal Meeting/66 (1982, mimeo), Art 60, Para 3 (UK), as discussed in SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, A Commentary*, Martinus Nijhoff (1993) Vol II, p 583.
75. A/CONF 62/122 *United Nations Convention on the Law of the Sea*, 1982, Art 60, XVII Off Rec 151, 164, as discussed in SN Nandan and S Rosenne, *ibid*, p 583.
76. SN Nandan and S Rosenne, *ibid*, p 583: This proposal was introduced by the French representative at the 170th plenary meeting (1982), Para 2, XVI Off Rec 100.
77. SN Nandan and S Rosenne, *ibid*.
78. See 174th plenary meeting (1982), Para 10, XVI Off Rec 100, as discussed in SN Nandan and S Rosenne, note *supra*, p584.
79. The issue of dumping was discussed in the UNCLOS I in a very limited manner. The provisions of Art 25(1) of the 1958 Convention on the High Seas which requires every State to take measures to prevent pollution of the seas from the dumping of radioactive, materials 'taking in to account any standards and regulations which may be formulated by the competent international organisations hardly reflects customary law as it then existed. 'That provisions was completed by a resolution adopted by the Conference, recommending *inter alia* that the International Atomic Energy Agency undertake certain studies in the matter'. The text of the Resolution entitled 'Pollution of the High Seas by the Radio-active Materials' is available in 490 UNTS 58: SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, A Commentatory*, Martinus Nijhoff (1991), Vol IV, pp 157-158.
80. LOSC, Art 1(5)(a)(i).
81. SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea 1982, A Commentatory*, Martinus Nijhoff (1991), Vol II, p 34.
82. LOSC, Art 60(1).
83. At the resumed ninth session of UNCLOS III, the Chairman proposed to add the word 'all' before 'other States' which was not adopted by the Third Committee.(A/CONF 62/C.3/L.34 and Add 1 and 2 (1980), Annex, XIV Off Rec 185, 186 (Chairman, Third Committee): SN Nandan and S Rosenne, note *supra*, p 165.
84. LOSC, Art 210(5).
85. LOSC, Art 216 1(a).
86. According to Art VII of the 1972 London Convention the contracting parties to the Convention are under an obligation to 'apply the measures required to implement the present Convention to all... vessels and aircraft and fixed and floating platforms under its jurisdiction believed to be engaged in dumping'.
87. LOSC, Art 194(3)(a).
88. LOSC, Annex III, Art 17(2)(f).
89. LOSC, Annex VIII, Arts 8(1), 8(2)(1), 8(2)(2), 8(5)(1).
90. The LOSC entered into force from 16 November, 1994
91. The Convention was adopted in 1972 and entered into force in 1975.
92. PW Birnie And AE Boyle, *International Law and the Environment*, Clarendon Press (1992) p 330.

93. The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, Art III(1).
94. London Convention, Art IV and Annex I.
95. London Convention, Art IV and Annex II.
96. Indeed the definition of dumping in Art III of the London Convention, with some changes was adopted and included in Art 1(5) of the LOSC: SN Nandan and S Rosenne, note *supra*, p 158.
97. III(1)(b)(i).
98. Art III(1)(c).
99. EA Kirk, 'The 1996 Protocol to the London Convention and the Brent Spar' (1997) 46 *ICLQ* 957 at 963.
100. IMO News, No 2, 1996, at p 3.
101. IMO News, No 2, 1996, at p 3.
102. IMO News, No 2, 1996, at p 3.
103. IMO News, No 2, 1996, at p 3.
104. 36 ILM (1997) 1.
105. Art 2. For a complementary note on the 1996 Protocol to the London Convention, see EA Kirk, note *supra;* A A-Khavari, '1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters' (1997) *2 Asia Pacific Journal of Environmental Law* 201; EJ Molenar, 'The 1996 Protocol to the 1972 London Convention' (1997) 12 *IJMCL* 396.
106. See Art IV of the London Convention and Art 4 of the Protocol and its Annex 1.
107. Art (1)(4)(1).
108. EA Kirk, note *supra*, at 961.
109. See the 1996 Protocol, Art 4(1)(2) and Annex 1(1)(4).
110. See Art IV of the London Convention.
111. The London Convention, Art IV(a)(2); the 1996 Protocol, Art 4(1)(2).
112. See Annex III of the London Convention as discussed in EA Kirk, note *supra*, at 961.
113. Annex II of the Protocol, Sections 2, 5, 6 and 12-15.
114. The 1996 Protocol, Section 12.
115. The 1996 Protocol, Section 13.
116. EA Kirk, note *supra* at 962.
117. By 1997 in the North Sea, 72 large oil and gas rigs were due to be decommissioned: *The Guardian Weekly*, 14 September, 1997.
118. Annex 2, Art 16.
119. Annex 3.
120. Annex 3, Art 1.
121. See this Chapter, Section 7.4.3.1 below.
122. GC Kasoulides, IMO, Draft Guidelines for the Removal of Offshore Platforms (1989) 4 *International Journal of Estuarine and Coastal Law* 71 at 75.
123. Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and the Exclusive Economic Zone, IMO Resolution A 672(16), 19 October, 1989.
124. ED Brown, *Seabed Energy and Minerals: The International Legal Regime*, Martinus Nighoff (1992) Vol I, p 385.
125. *Ibid*.

126. IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, Art 3.1
127. *Ibid,* Arts 3.5 and 3.6.
128. *Ibid,* Art 2.1.
129. *Ibid,* Art 3.13
130. GC Kasoulides, note *supra*, at 76.
131. *The Guardian*, 10 May, 1995.
132. Greenpeace estimates that between them, the rigs carry a toxic burden of 700 tonnes of lead, 4,300 tonnes of zinc, 8,000 tonnes of PCB's, 160 tonnes of industrial gasses, 13,000 tonnes of residual oil and 1,200 tonnes of radioactive scale. *The Guardian*, 10 May, 1995.
133. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo 1972, 11 ILM 262; entered into force on 6 April, 1974, and has been ratified by: Belgium, Denmark, Finland France, the Federal Republic of Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland.
134. For further study on the purpose and provisions of the ODC, see D Brubaker, *Marine Pollution and International Law*, Belhaven Press (1993) pp 73-78.
135. See also Art 17 of the ODC; The initial task of the Commission was to regulate and control the dumping at sea of industrial wastes, sewage sludge and dredged material and the incineration at sea of liquid industrial wastes. The dumping of industrial waste was later phased out in the Northeast Atlantic by the end of 1995. Sewage sludge will not be dumped after 1998.Incineration at sea stopped in 1991. See Homepage of OSPAR on the World Wide Web (viewed February 2001) at: *http://www.ospar.org/eng/html/background.htm;* T Ijlstra, "Removal and Disposal of Offshore Installations" (1989) 1 *Marine Policy Report* 269 at 282-284.
136. RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) pp 369-370; T Ijlstra, note *supra*, at 281.
137. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Art 19(1).
138. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Art 19(2).
139. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Annex II, Art 1(b).
140. T Ijlstra, note *supra*.
141. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention), Annex II, Art 2.
142. *Ibid,* Annex II, Art 4(a)(b).
143. See Twelve Annual Report on the Activities of the Oslo Commission, p 25 as discussed in T Ijlstra, note *supra*, at 282.
144. Chapter 6 above.
145. OSPAR Convention Art 1(f).
146. Convention, for the Protection of the Marine Environment in the North East Atlantic, 1992 (OSPAR Convention), Art 1(g)(iii).
147. Art 8 of Annex III of the OSPAR Convention.
148. Art 10 of the OSPAR Convention.
149. Art 8 and 10(d) of Annex III of the OSPAR Convention.

150. According to Art 5(1) of Annex III of the OSPAR Convention: 'No disused offshore installation or disused offshore pipelines shall be dumped and no disused offshore installation shall be left wholly or partly in place in the maritime area without a permit issued by the competent authority of the relevant Contracting Party on a case by case basis. The Contracting Parties shall ensure that their authorities, when granting such permits, shall implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention'.
151. The Meeting was held on 22-23 July, 1998 in Sintra: Portugal, see OSPAR Commission Internet site (viewed February 2001) at: *http://www.ospar.org/eng/html/welcome.html.*
152. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Available in OSPAR Commission Internet site (viewed February 2001) at: *http://www.ospar.org/eng/html/welcome.html.*
153. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Preamble.
154. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Para 2.
155. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Para 3.
156. The conditions are provided in Annex 2 of the Decision entitled: 'Framework for the Assessment of Proposal for Disposal at Sea of Disused Offshore Installations.' According to Annex III 'the assessment shall consider the potential impacts of the proposed disposal of the installation on the environment and on other legitimate uses of the sea. The assessment shall also consider the practical availability of reuse, recycling and disposal options for the decommissioning of the installation' (Para 2). The Decision also lists the matters to be considered before a permit is given for disposal at sea of installations which includes the technical and engineering aspects of the option, safety considerations associated with removal and disposal, the impact on the marine environment and economic aspects (Para 7).
157. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Para 3.
158. 'Steel installation' is defined as 'disused offshore installations, which are constructed wholly or mainly of steel': SPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Para 1(d).
159. Annex 1 provides: the following categories of disused offshore installations, excluding their topside, are identified for the purpose of paragraph 3:
    a. steel installations weighing more than ten thousand tonnes in air;
    b. gravity based concrete installations;
    c. floating concrete installations;
    d. any concrete anchor-base which results, or is likely to result, in interference with other legitimate uses of the sea.
160. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Para 5.
161. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Annex 4, Para 1.
162. OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations (1998), Annex 4, Para 2(g).

163. Protocol for the Prevention of Maritime Pollution in the Arctic Region from Land based Sources.
164. D Brubaker, note *supra*, p 408.
165. Protocol for the Prevention of Maritime Pollution in the Arctic Region from Land based Sources, Art 3(ii)(iii).
166. Protocol for the Prevention of Maritime Pollution in the Arctic Region from Land based Sources, Art 5.
167. D Brubaker, note *supra*, p 415.
168. Protocol for the Prevention of Maritime Pollution in the Arctic Region from Land based Sources, Art 4.
169. *Ibid*.
170. *Ibid*, Art 4.
171. For the discussion of the 1976 Barcelona Convention see Chapter 5 above.
172. The 1988 Protocol concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf to the 1978 Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment, Art XIII(b)(2).
173. *Ibid*, Art XIII(b)(3).
174. Art 10.
175. Art 2(b).
176. Protocol for Prevention of Pollution of the South Pacific Region by Dumping, 25 November, 1986, Art 3(2).
177. According to Art 311(1) of the LOSC 'this Convention shall prevail, as between States Parties, over the Geneva Convention on the Law of the Sea of 29 April, 1958'.
178. The 1987 Petroleum Act, S 1.
179. The 1987 Petroleum Act, S 4.
180. The 1987 Petroleum Act, S 8.
181. The 1987 Petroleum Act, S 10(3).
182. The 1987 Petroleum Act, S 10(4).
183. The 1987 Petroleum Act, S 11(2)(a)-(c).
184. 'Guidance Notes for Industry: Abandonment of Installations and Pipelines under the Petroleum Act 1987' issued by the DTI, 4 August, 1995 (the DTI Guidelines), Para 1.1.1.
185. Z Gao, 'Current Issues of International Law on Offshore Abandonment, with Special Reference to the United Kingdom' (1997) 28 *ODIL* 59 at 69.
186. *Europe Energy*, 27 September, 1995.
187. *New Scientist*, 24 June, 1995.
188. *New Scientist*, 24 June, 1995.
189. *Engineer*, 9 March, 1995.
190. *New Scientist*, 24 June, 1995.
191. *New Scientist*, 24 June, 1995.
192. *World Press Review*, September, 1995.
193. *International Environment Reporter Current Report*, 28 June, 1995.
194. *New Scientist*, 24 June, 1995.
195. *Oil & Gas Journal*, 27 November, 1995.
196. *The Economist*, US, 20 July, 1996.
197. *The Economist*, US, 20 July, 1996.
198. *International Herald Tribune*, 4 July, 1996.

199. *The Guardian weekly*, 8 February, 1998.
200. *Time*, 3 July, 1995.
201. *International Environment Reporter Current Report*, 28 June, 1995.
202. *Ibid*.
203. *Ibid*.
204. *Reuters World Service*, 17 June, 1996, available in Lexis, News Library, Curnws File.
205. *Oil & Gas Journal*, 3 June, 1996.
206. *Ibid*.
207. *Ibid*.
208. *Ibid*.
209. For more information on the physical nature and operation of the Northeast Frigg platform see: Offshore Technology Conference (OTC), Post Operational Investigation of the Recovered North Sea East Frigg Subsea Production Equipment After 10 Years' Service (1995) a paper presented at 27th Annual OTC in Houston, Texas, USA, 1–4 May, 1995.
210. *Oil & Gas Journal*, 3 June, 1996.
211. *Ibid*.
212. *Ibid*.
213. *Ibid*.
214. *Ibid*.
215. *Ibid*.
216. *Ibid*.
217. *Ibid*.
218. Greenpeace Homepage (viewed February 2001) at: *http//www.greenpeace.org*.
219. *Ibid*.
220. See this Chapter, Section 7.4.3.1 above.
221. Such as the following Commonwealth Legislation:
Pollution of the Sea by Oil Act 1960; Protection of the Sea (Discharge of Oil from Ships) Act 1981; Protection of the Sea (Civil Liability) Act 1981; Protection of the Sea (Powers of Intervention) Act 1981; Protection of the Sea (Shipping Levy Collection) Act 1981; Offshore Mineral Act 1994.
222. Such as the Sea Installation Act 1987.
223. Section 8.
224. Section 7.
225. 'Platform' includes any man-made structure at sea, whether floating or fixed to the seabed, but does not include a vessel. (Art 1).
226. Section 11(a).
227. Section 11(b).
228. Section 11(c).
229. Section 15 (1)(2).
230. Section 15(3)(a).
231. Section 15(b)(c)(d).
232. See P Brazil comment on 'Recent Developments' in (1999) 18 *AMPLJ* 1 at 3.
233. For the map of Australia offshore petroleum, see MWD White, *Marine Pollution Law of the Australasian Region*, Federation Press (1994) p 240.
234. *The Oil Daily*, 27 July, 1998.

8 The Conflict Between the Use of Oil Rigs, Navigation and Other Uses of the Sea

8.1 Introduction

Different marine activities such as fishing and navigation may be affected by the ever-growing construction and operation of offshore oil rigs.

The 1982 LOSC addresses different activities at sea, including offshore oil production,[1] navigation,[2] fishing,[3] overflight,[4] telecommunication,[5] oceanography,[6] marine archaeology,[7] naval and air force operations,[8] deep sea mining[9] and marine scientific research.[10]

The LOSC seeks to resolve the conflict between the traditional uses of the sea and coastal states' rights concerning natural resources of the sea.[11] However it fails to resolve the practical issues of conflict between the use of oil rigs and other uses of the sea. In practice, there are long-simmering conflicts between the use of offshore oil rigs, the fishing industry and navigation. Offshore oil rigs and exploratory vessels may restrict access to fishing grounds and interfere with navigation. For example certain areas of the sea become closed to fishing when the exploration and exploitation of oil is taking place at sea, debris from offshore operations can damage fishing vessels and offshore operations may result in damage to fish stocks and their food.[12]

It is intended in this chapter to analyse the practical conflicts, from an international law perspective between offshore installations for the purpose of the exploration and exploitation of natural resources of the sea, fisheries and other uses of the sea. Certain areas of conflict between offshore oil rigs and other uses of the sea, such as pollution from offshore oil rigs, safety zones, and the removal of installations, are not included in the discussions in this chapter. These subjects are dealt with in detail elsewhere in this book.[13] The conflict between fishing and the freedom of navigation is not covered in this chapter as it is outside the scope of this study.[14]

8.2 Conflict with Fisheries

The use of oil rigs in different parts of the sea may interfere with the fishing industry. Oil platforms situated where fishing activities take place, restrain the passage of fishing vessels and restrict access to fishing grounds.[15] The underwater equipment of the installations has some impact on the fishing industry as it may collide with certain parts of the fishing fleet engaged in bottom trawling.[16] Furthermore, the resulting oil pollution from oil rigs presents a serious hazard to fisheries.[17] On the other hand, fishing vessels may interfere with the security and safety of offshore oil installations. For example in the period 1975-1983, violations of safety zones around offshore oil rigs by fishing vessels in the North Sea was about 70 percent of the total number of violations.[18] The United States' Coast and the North Sea are two typical examples where conflicts have raged for sea space as offshore oil rigs condense access to fishing resources. In the early 1980s a drilling program took place off the coast of Massachusetts on the continental shelf area known as Georges Bank, a significant and productive fishing ground.[19] The introduction of drilling on the Georges Bank was opposed by both fishermen and environmentalists.[20] Fishermen were apprehensive that drilling activities would interfere with fishing. However, after three years of litigation, exploratory drilling began under the terms of a court ordered settlement.[21] In the North Sea, where fisheries account for almost a quarter of the total world catch and the oil reserves are estimated at about 10 percent of the total world's offshore oil reserves,[22] the conditions for conflict exist between these two natural resources of the sea.[23] In California, the States' Local Marine Fisheries Impact Program was created in 1988 to reduce the level of conflict between offshore oil production and fisheries by raising the levels of communication.[24]

These examples clearly indicate that the construction and use of offshore oil rigs on the continental shelf and in the EEZ may interfere with the fishing industry. Where more than one country is involved in such a conflict then the issue should be resolved by international law. This can be an international issue if the conflict occurs on the continental shelf, when it extends beyond 200 nautical miles. This situation places the right of a coastal state to explore and exploit oil against the freedom of fishing on the high seas.[25] Further, the right of land locked States to fishing with respect to the surplus of the living resources of the EEZ of the coastal States[26] may interfere with the rights of coastal States over petroleum resources of the continental shelf and the EEZ. The legal dispute which arises in this situation concerns the question as to who has the rights to an area which can have both petroleum resources and fish. The conflict between oil rigs and fishing on the continental shelf and the EEZ will be discussed hereunder. However, the emphasis will be placed on the EEZ, as the law of the sea provides a similar

regime with respect to oil rigs erected on the continental shelf and the EEZ.

8.2.1 On the Continental Shelf

The 1958 Geneva Convention on the Continental Shelf provided that the exploitation of the natural resources of the continental shelf must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea.[27] However, the coastal State is entitled to construct and maintain or operate, on the continental shelf, installations and other devices necessary for its exploration and the exploitation of its natural resources and establish safety zones around such installations and devices, and to take the measures necessary in those zones for their protection.[28] According to JP Grant, the rights of the coastal state concerning oil production is superior to fishing rights.[29]

The provisions in the Continental Shelf Convention were set down before the notion of the Exclusive Economic Zone was developed and refined in the Law of the Sea Convention 1982. The introduction of the EEZ by the LOSC has created two legal regimes with respect to natural resources in those areas of the sea which extend 200 nautical miles from the baseline. This issue by itself is a problem. One regime, the Continental Shelf, emphasises the oil and gas resources of the seabed, whereas the EEZ regime is concerned with managing the living or non living natural resources. According to the Continental Shelf regime, the coastal State has the right to explore the continental shelf or exploit its non living natural resources.[30] The exercise of the coastal States' rights do not affect the legal status of the superjacent waters.[31] This would mean that fishing over superjacent waters of the continental shelf shall be free for all states. Since the limits of the Continental Shelf and the EEZ overlap, except when the area of the Continental Shelf extends more than 200 nautical miles, the conflict between fisheries and offshore oil production in the EEZ will be discussed in detail below.

8.2.2 In the EEZ

It is the coastal States' right to set priorities between the establishment of oil platforms and the fishing industry on the continental shelf and the EEZ. States other than coastal states may have fishing rights in the EEZ only by permission of the coastal States, or where the coastal State does not have the capacity to harvest the entire allowable catch.[32] The coastal State shall give other states access to the surplus of the allowable catch.[33] According to Article 78(2) of the LOSC the Coastal States' rights over its continental shelf must not infringe upon or result in any unjustifiable interference with other States' rights and freedoms provided for in this Convention. This Article

corresponds to Article 5(1) of the 1958 Continental Shelf Convention. To understand the purpose of this Article and the meaning of the term 'unjustifiable interference' it is necessary to look at the discussions of the UNCLOS III. At the 1973 session of the Seabed Committee, China and Argentina presented two proposals which contained provisions 'distinguishing between the coastal States' rights or jurisdiction over the continental shelf and the regime applicable to the superjacent waters and air space above those waters'.[34] Although these proposals were both concerned with freedom of navigation they opened discussion regarding the rights of other states on the continental shelf. Subsequently, at the eighth session of the UNCLOS III (1979) the USSR proposed an amendment to Article 80 of the Informal Composite Negotiating Text (ICNT), 1977, adding a new paragraph which read:[35]

> The exercise of the rights of the coastal State regarding the continental shelf must not infringe or result in any unjustifiable interference with the exercise of navigation and other rights and freedoms of other States; the exercise of navigation and the other rights and freedoms of other States must not infringe or result in any unjustifiable interference with the exercise of the rights of the coastal State regarding exploration and exploitation of the natural resources of the continental shelf.

The Chairman of Negotiating Group 6[36] suggested a proposal titled 'Exercise of the rights of the coastal State' which read:

> The exercise of the rights of the coastal State over the continental shelf must not infringe, or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in the present Convention.

This text was finally incorporated as Article 78(2) of the LOSC.[37] The wording of Article 78(2) which contains 'interference with ... other rights and freedoms of other States as provided for in this Convention' includes rights to lay submarine cables and pipelines[38] on the continental shelf, freedom of scientific research[39] and the rights of other States to fishing.[40] The negotiations which led to the conclusion of Article 78(2) do not clarify the purpose of 'unjustifiable interference'. Does it mean deliberate interference or the prohibition of any kind of interference? It appears that interference has to be deliberate in order to be illegal under Article 78(2) of the LOSC for two reasons: firstly, the word 'unjustifiable' may imply that interference should be deliberate. In fact, unwilling interference can be justifiable in a situation such as *force majeure*; secondly, the words 'must not' appear to place the emphasis on a type of obligation that must be deliberately broken.

The title of Article 59 of the LOSC refers to a 'basis for resolution of conflict regarding the attribution of rights and jurisdiction in the exclusive economic zone'. Article 59 provides:

> In cases where this Convention does not attribute rights or jurisdiction to the coastal State or other States within the exclusive economic zone, and a conflict arises between the interests of the coastal State and any other State or States, the conflict should be resolved on the basis of equity and in the light of all relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole.

It may, at first sight, be said that Article 59 of the LOSC provided a formula to resolve the conflicts regarding the attribution of rights and jurisdiction in the exclusive economic zone. However, the text of the Article reveals that it is primarily concerned with cases where the LOSC does not attribute rights or jurisdiction to the coastal State or to other States within the exclusive economic zone, and a conflict arises between the interests of the coastal State and any other State or States.

The concept of 'equity' is a part of international law.[41] This concept is qualified by the LOSC 'in the light of all relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole'.[42]

Considering the nature of the EEZ[43] it seems that the economic interests of the coastal State are the principle concern. This means that if there is any conflict between the rights of the coastal States relating to, for example, the production of petroleum, and the rights of other States, the fishing interests of the coastal State would prevail. However, in cases where the conflict is related to issues not involving the exploration for and exploitation of natural resources, such as navigation, the interests of other States or the international community would prevail.[44]

Article 58 of the LOSC gives all States the right of navigation, over flight, the laying of submarine cables and pipelines and other internationally lawful uses of the sea related to these freedoms.[45] The LOSC also obliges States to have due regard to the rights and duties of the coastal States while they are exercising their rights and performing their duties under the LOSC. States further shall comply with the laws and regulations adopted by the coastal State.[46] This means that the LOSC intends to create a balance between the traditional uses of the sea and modern uses of the sea, such as fishing and offshore oil production. This intention is well described by the former head of the US delegation[47] to the United Nations Conference on the Law of the Sea Convention (UNCLOS III):

> Article 58 was the subject of particularly difficult negotiation in the informal group. Every word and comma was extensively debated. It was understood from the outset that the willingness of the maritime States to back off their insistence on explicit high-sea status for the exclusive economic zone must be compensated for by coastal State recognition that the high-seas freedoms exercisable in the zone are qualitatively and quantitatively the same as the traditional high-sea freedoms recognised by international law.[48]

The rights of States, other than the coastal States, with respect to access to the surplus of the allowable fish catch in the EEZ, the subject of Articles 62(2), 69 and 70 of the LOSC, is not entirely clear. However, the coastal State is the party which will determine its capacity in relation to the fishing catch and may consider its national interests first. Therefore, in the case of a conflict between the fishing of other States and the coastal State's activities with respect to offshore oil production, the oil interests of the coastal State appear to be more important than foreign fishing interests. This is also compatible with the concepts of the continental shelf and the EEZ which were created for the protection of the rights of the coastal States over its natural resources in these areas.

State practice shows that there is much legislation which contains provisions purely to minimise conflict between petroleum production and foreign fisheries in the continental shelf and EEZ.[49] State practice demonstrates that States have not given any priority to either fishing activities or offshore oil production. Accordingly, it has been said that it is the duty of states, according to customary international law, to avoid unjustifiable interference with foreign fishing rights in the continental shelf and EEZ.[50] This statement is applicable only to the continental shelf where it extends beyond the limit of the 200 miles, by virtue of the fact that within the limits of the EEZ, except in exceptional cases, fishing is the exclusive right of the coastal State. Further, as was already stated, the rights of non coastal States are to be determined by the coastal State, based on its capacity for achieving its fishing catch and its national interest.

If States other than the coastal State have rights to the EEZ through agreements, the conflict between their rights and the rights of coastal states to oil and gas must be dealt with on the conditions and terms stated in the relevant agreements. Otherwise, nationals of other States, fishing in the exclusive economic zone, must comply with those conditions and terms established in the laws and regulations of the coastal State.[51] The laws and regulations of the coastal State shall be consistent with the LOSC and may relate to a number of subjects, including the licensing of fishermen, fishing vessels and equipment, determining the species which may be caught, regulating seasons and areas of fishing, specifying the information required of fishing vessels, the terms and conditions relating to joint ventures or other cooperative arrangements and enforcement procedures.[52] Therefore,

according to the LOSC's provisions, the coastal States have a paramount role in applying the rules concerning the utilisation of fishing stock. Disputes relating to the fisheries in the EEZ are subject to Part XV of the Convention which is related to the settlement of disputes. However, the coastal State shall not be obliged to submit to such a settlement of any dispute relating to its sovereign rights with respect to the living resources in the exclusive economic zone or their exercise, including its discretionary powers for determining the allowable catch, its harvesting capacity, the allocation of surpluses to other states and the terms and conditions established in its conservation and management laws and regulations.[53]

8.2.3 On the High Seas

On the high seas, all States, whether coastal or land locked, have the freedom to construct oil rigs and other installations.[54] At the same time the nationals of all states have the right to engage in fishing on the high seas,[55] subject to the conditions laid down in section 2 of Part VII of the LOSC which is entitled 'Conservation and Management of the Living Resources of the High Seas'. This means that the freedom of fishing in the high seas is not an absolute and unrestricted freedom.[56] However, on the high seas superjacent to the continental shelf of the coastal state, where the continental shelf extends further than the 200 miles breadth of the exclusive economic zone, a special authority on behalf of the coastal State is required for the erection of oil rigs.[57] On the high seas superjacent to the seabed and subsoil beyond the continental shelf of the coastal State, which is beyond the limits of national jurisdiction, the establishment of oil rigs is subject to the rules, regulations and procedures of the International Seabed Authority.[58] Considering the advances in modern technology, the rise of both the fishing[59] and oil industries, and the feasibility of establishing oil rigs in the deepest parts of the high seas superjacent to the continental shelf and even further, certain conflicts may arise from the use of oil rigs and fisheries on the high sea. Violation of the safety zones around oil installations by fishing vessels, and problems for the fishing industry arising from oil pollution caused by oil platforms, are examples of conflicts between fisheries and oil rigs on the high seas.

Conflict between offshore oil rigs erected on the Area and fishing on the waters superjacent to the seabed beyond the limits of national jurisdiction is referred to in the LOSC in general terms as the 'accommodation of activities in the Area and in the marine environment'. Article 147 (1) of the LOSC generally states that 'activities in the Area shall be carried out with reasonable regard for other activities in the marine environment'. Any conflict arising between offshore oil production and fishing in the Area would be a conflict of interest between the international community (the Authority) and the relevant States. As was discussed in Chapter 4, the Authority does

not have any legal personality. Therefore, it is not clear who does hold the legal rights on behalf of the international community. However, it is clear from the provisions of Article 147(2) of the LOSC that the establishment of oil rigs on the area shall be subject to the rules, regulations and procedures of the Authority.

Although the space of the high seas has been considerably reduced by the LOSC, the legal regime of the high seas has not changed significantly.[60] According to Article 117 of the LOSC, States are obliged to take or to cooperate with other States in taking such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas. Article 118 specifies the nature of the required international cooperation. This Article provides that States shall cooperate with each other in the conservation and management of living resources in the area of the high seas.

A few other international treaties relating to fishing on the high seas do not hint at the issue of conflict between fisheries and other uses of the sea. For example none of the 1980 Convention on Conservation of Antarctic Marine Living Resources (CCAMLR), a regional agreement dealing with High Seas Fisheries[61] and the 1995 Fish Stock Treaty, which changed the international fisheries management regime,[62] provide any provisions in relation to the conflict between fisheries and the operation of oil rigs. This could be based on the fact that the construction and operation of oil rigs in the high seas is not yet a common practice. Therefore, international and regional treaties dealing with the issue of fishing do not normally discuss the issue of conflict between fisheries and the operation of oil rigs in the high seas. However, it should be noted that with the advancement of technology and the feasibility of offshore oil production on the seabed area under the high seas, conflicts between different states engaging in fishing and oil production will no doubt occur.

Section 1 of Part VII of the LOSC which is concerned with general provisions of the high seas, including freedom of the high seas, does not indicate anything regarding the interference with other uses of the sea by oil rigs. This section only provides for the freedom to construct offshore installations, subject to Part VI of the Convention, and the freedom of fishing subject to the conditions laid down in section 2 of Part VII of the Convention.[63]

It thus appears that although there are certain provisions in the LOSC in relation to the preservation of the living resources of the high seas, the Convention has little to offer regarding the solution in respect of conflicting uses beyond the general concepts of equity and settlement of disputes. The existing provisions concerning the preservation of the living resources of the high seas seem to be related to the problem of over fishing and is not concerned with other uses of the sea or pollution. This could be based on the

fact that most of the world's fisheries, about 93 percent of the world catch, takes place in the territorial and EEZ waters within coastal State jurisdiction.[64]

8.3 Conflict with Navigation

The right of navigation and the right of establishment of offshore installations will clash in some areas of the sea, in particular, those areas closer to the shore.[65] Offshore installations in shipping lanes may lead to loss of time and the risk of accident and collision.[66] In 1975, in the Gulf of Mexico, the collision of a British super tanker with an unmanned drilling rig caused the spillage of 54,000 tonnes of oil into the sea.[67] In the same area, 55 ships collided with oil rigs in the period from 1980-1984.[68]

8.3.1 In the EEZ and Continental Shelf

The recognition of the EEZ by the LOSC creates a potential for infringement of the freedom of navigation in these areas. The rights of the coastal State to construct and to authorise and regulate the construction of oil rigs, and other offshore structures and safety zones around such installations are among the most significant factors which may interfere with the freedom of navigation.

In the EEZ all States enjoy the freedom of navigation referred to in Article 87 of the LOSC.[69] However, this freedom is subject to the relevant provisions of the Convention,[70] which place certain limitations on the freedom of navigation in the EEZ.[71] The sovereign rights of the coastal State for the purpose of exploring and exploiting, conserving and managing the natural resources of the sea,[72] and its jurisdiction with regard to the establishment and use of artificial islands, installations and structures[73] are significant examples of the LOSC's provisions which may interfere with the freedom of navigation. A reasonable safety zone around offshore installations may be established by the coastal State,[74] taking into account applicable international standards.[75] However, the coastal State in exercising its rights and performing its obligations in relation to the construction and use of offshore installations, is obliged to have due regard to the rights and duties of other States.[76] The meaning of the term 'due regard' has not been clarified. At the second session of the UNCLOS III(1974) nine States[77] submitted a Working Paper that contained provisions including a section which read:

> The coastal State shall exercise its rights and perform its duties in the economic zone without undue interference with other legitimate uses of the sea, including subject to the provisions of this convention, the laying of cables and pipelines.[78]

Following that proposal, Nigeria proposed a revised draft on the EEZ[79] which placed the emphasis on the rights and competences of coastal States. Six European socialist States proposed a set of draft articles which included the following general provisions:

> The coastal State shall exercise its rights and obligations in the economic zone in accordance with the provisions of this Convention, with due regard to the other legitimate uses of the high seas and bearing in mind the need for a rational exploitation of the natural resources of the sea and the preservation of the sea environment.

The representative of the Soviet Union commented on this proposal as follows:

> The granting of sovereign rights in the economic zone to a coastal State was not equivalent to the granting of territorial sovereignty and must in no way interfere with the other lawful activities of States on the high seas, especially with international maritime communications. The convention must state clearly that the rights of the coastal State in the economic zone must be exercised without prejudice to the rights of any other State recognised in international law, including the freedoms of navigation, overflight and the laying of cables and pipelines, and the freedom of scientific research not connected with the exploration and exploitation of the living and mineral resources of the economic zone.[80]

There were also a number of proposals in which the term 'due regard' was omitted from the text. For example one proposal referred to the duties of the coastal State as 'duties compatible with the provisions of these conventions'.[81] Several drafts on the rights and duties of coastal States were proposed by the Land-Locked and Geographically Disadvantaged States (LL/GDS) in which an emphasis was placed on the duties of the coastal States in the EEZ, including the following article:

> In exercising their rights relating to the economic zone, coastal States shall pay due regard to the rights of other States in that zone.[82]

The term 'due regard' was retained in the final draft of the Convention. Considering the fact that the term 'due regard' was proposed by the land locked States, it is understandable that the words 'due regard' are mentioned in Article 56(2) of the LOSC to emphasise the special duties of the coastal States in relation to the rights of other States in the EEZ, particularly in regard to the right of navigation. This is particularly understandable when other provisions of the LOSC are considered. For example, according to

Article 60(7) of the LOSC, artificial islands and offshore structures may not be established where they will interfere with recognised sea lanes essential to international navigation. Paragraph 7 of Article 60 gives priority to navigation over the establishment of oil rigs, artificial islands and offshore structures.[83] Therefore, it is fair to say that when there is conflict between the establishment of oil rigs and recognised sea lanes essential to international navigation, the latter will prevail.

It is also the duty of the coastal State to give due notice of the construction of offshore installations and permanent means for giving warning of their presence must be maintained.[84] In addition, installations or structures shall be removed, entirely or partly, to ensure the safety of navigation.[85] States, in performing their right of navigation shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of the LOSC.[86] Although these laws and regulations shall not restrict or control the freedom of navigation, in practice they may however affect navigation.

As has been seen, both the rights of the coastal State to construct and use offshore installations and the freedom of navigation are safeguarded by certain measures. The problem envisaged is how to determine priorities between the rights of the coastal State and the freedom of navigation. The LOSC does not provide any priority between the rights of coastal States to construct and use offshore oil structures and the rights of other States to navigate in the exclusive economic zone.[87]

In relation to the rights of the coastal State to the natural resources of the EEZ and the freedom of navigation, two different views have been stated in order to find a formula that properly balances the interests of the coastal State against the right of the international community to the freedom of navigation. Some writers gave priority to navigation, and stated that the sovereign rights of the coastal State in relation to fishing do not deprive a fishing vessel of the freedom of navigation.[88] On the other hand, it has been stated that the balance of principle is weighted in favour of the coastal State, and freedom of navigation is subject to the relevant provisions of the Convention.[89]

These contrasting views in relation to the interpretation of the LOSC with respect to freedom of navigation and other uses of the sea, including the construction and operation of offshore oil rigs, demonstrates that the LOSC does not expressly prefer any of those activities when conflict between them arises. On the one hand, the freedom of navigation over waters superjacent to the continental shelf and the EEZ, similar to the freedom of navigation on the high seas, is a traditional right recognised by both customary international law and LOSC. This right is also important to the international community. On the other hand, the purpose of the creation of the continental shelf and the EEZ was to protect the coastal State's interests, including the right to establish and operate oil rigs, in these parts of the sea.

The vague statement of the LOSC in relation to unjustifiable interference of offshore oil production with navigation, which was also mentioned in Article 5 of the 1958 Continental Shelf Convention, was criticised when the International Law Commission (ILC) in 1953 adopted the preparatory draft of Article 5(1) of the Continental Shelf Convention.[90] The ILC argued that the purpose of Article 5(1) was not to give priority between navigation and other uses of the sea.[91]

Two issues have to be considered. First, what should be done in the cases where there is serious conflict between navigation and the operation of oil rigs. For example, the construction and operation of oil platforms on a large scale in an international Strait can entirely hamper international navigation. Second, what is the solution when the establishment of oil installations may require ships to change their direction or to be stopped for a period of time. It seems fair to say that in the first instance the right of navigation should prevail over the coastal States' rights for the establishment and use of oil platforms. In this situation the right of a coastal State over its natural resources is in contrast with the rights of the international community and the traditional right of freedom of navigation. In the second situation, the right of the coastal State should have priority. This seems compatible with the international law trend in recent decades which gives an exclusive right to the coastal State in relation to its natural resources of the continental shelf and the EEZ.

In conclusion it can be said that rights of non coastal States in relation to navigation in the EEZ is safeguarded by three measures. They are 'due regard', the subject of Article 56, equity, the subject of Article 59 and the compulsory dispute settlement processes, the subject of Part XV of the LOSC.

Finally, as Churchill and Lowe point out, in the case of conflict between the two sets of rights, each case will have to be decided on its own merits on the bases of the criteria provided by the LOSC.[92] It is notable here that in the absence of any specific regulation in the LOSC to properly balance the coastal States' rights with respect to the construction and use of oil rigs and the freedom of navigation in the EEZ, the recognised sea lane essential to international navigation may take precedence over the establishment of offshore structures. On the other hand, after the construction of an offshore installation in the EEZ, the coastal State has priority over the right of navigation through the area in which the structure is located and the safety zone around the installation.[93] This is particularly understandable from the point of view of the coastal State in relation to the establishment of safety zones around offshore installations. As discussed in Chapter 5 ships of all states have to respect the 500 metre safety zones around oil installations. However, the recognised sea lanes essential to international navigation are

not clearly defined in international law.[94] Further, it is not clear as to who decides whether or not a sea lane is essential to international navigation.[95]

8.3.2 In the High Seas

The freedoms of the high seas have been recognised for a long time.[96] International law did not specifically provide any regulations with respect to the construction and use of offshore installations on the high seas.[97] According to the LOSC, the establishment of offshore oil installations on the high seas is to be governed under the legal regime of the Area. The provisions of Part XI of the LOSC, which are connected to the legal regime of the area in regard to conflict between the establishment and operation of oil installations, is very similar to the provisions of the LOSC relating to conflict between navigation and offshore oil production on the continental shelf and in the EEZ. Article 147 of the LOSC provides that due notice must be given of the erection, emplacement and removal of such installations and permanent means for giving warning of their presence must be maintained. It further provided that the safety zone around such installations should be established with appropriate markings to ensure the safety of both navigation and the installation.

Article 147 of the LOSC provides that offshore installations may not be established where interference may be caused to the use of recognised sea lanes essential to international navigation or in areas of intense fishing activity.[98] Further, the location of 'such safety zone shall not be such as to form a belt impeding the lawful access of shipping to particular maritime zones or navigation along international sea lanes'.[99] This means that the LOSC with respect to conflict between offshore oil production and navigation in the Area is precise in giving priority to international shipping on major maritime routes over the construction of offshore oil rigs. Finally, according to Article 147, all 'other activities in the marine environment shall be conducted with reasonable regard for activities in the Area'.[100] This means that, except in relation to rights of international navigation, the construction and operation of offshore oil rigs has priority over other uses of the high seas.

The conflict between the establishment and use of oil platforms and navigation in the Area is not as serious as in the EEZ and continental shelf to date, as the emplacement and use of offshore installations for the purpose of exploration for and exploitation of the non-living natural resources of the Area is not yet common. Furthermore, the construction and use of offshore oil installations in the Area are supposedly for the benefit of the international community. In addition, since no State may claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, there is an even balance of power in relation to activities in the Area, as opposed to the EEZ and the continental shelf, wherein the coastal State has jurisdiction and

sovereign rights with respect to the exploration and exploitation of its natural resources. Thus it appears that in the Area the freedom of navigation is favoured when balanced against the use of offshore installations. This may be explained in two ways: firstly, freedom of the high seas is a well established principle of international law, rooted in centuries of custom; secondly, navigation is the dominant use of the high seas over the seabed Area rather than the exploration and exploitation of the natural resources of the sea.

8.4 Conflict with Laying of Cables and Pipelines

Oil rigs may have an impact on the laying of submarine cables and pipelines. For example, where a large bottom-bearing installation is constructed, cable or pipelines cannot be laid, and if these have already been laid on the seabed, they must be removed in order to establish a fixed oil platform.[101]

According to the LOSC, all States are entitled to lay submarine cables and pipelines on the continental shelf.[102] Paragraph 2 of Article 79 provides that the coastal State may not impede the laying or maintenance of submarine cables and pipelines on its continental shelf in order to take reasonable measures for the exploration and exploitation of its natural resources.[103] However, 'the delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State'.[104] Furthermore, the coastal State is entitled 'to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction'.[105] The existing submarine cables or pipelines have priority over new cables or pipelines as 'States shall have due regard to cables or pipelines already in position'.[106]

The history of Paragraph 2 of Article 79[107] goes back to 1956 when the ILC prepared draft Articles for the 1958 Geneva Conventions on the Law of the Sea. At the time the laying of submarine cables was addressed in the context of the continental shelf and submarine cables and pipelines were addressed in the context of the seabed of the high seas.[108] The ILC stated in its commentary:

> The coastal State is obliged to permit the laying of cables and pipeline on the floor of its continental shelf, but ... it can impose conditions as to the route to be followed, in order to prevent undue interference with the exploitation of the natural resources of the seabed and subsoil. Clearly, cables and pipelines must not be laid in such a way as to hamper navigation.

During the negotiations concerning the UNCLOS III, the provisions of Article 79, particularly Paragraph 2, were the subject of extensive discussion.[109] In 1975 in the Informal Single Negotiating Text (ISNT), Article 65, the following provisions were introduced:

> ... subject to its right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention of pollution from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines.[110]

Similar provisions were introduced at the 4th session of the UNCLOS III in 1976 as Article 67 of the Revised Single Negotiating Text (RSNT).[111]

On the high seas, all States have the freedom to lay submarine cables and pipelines based on similar conditions to those provided for the laying of the cables and pipelines on the continental shelf.[112] However, the effect of the provisions of Article 79 of the LOSC is that other States' right to lay cables and pipelines in a coastal States' EEZ is less extensive than their similar rights on the high seas.[113]

Although the LOSC tried to create a balance between the rights of the coastal State over its natural resources on the continental shelf and the rights of other States to lay submarine cables and pipelines, there were a number of ambiguities in relation to the scope and interpretation of the provisions of the Convention. For example, according to Article 79(4) of the LOSC, the jurisdiction of the coastal State over cables and pipelines constructed or used in connection with the exploration and exploitation of the resources of its continental shelf, or operations of offshore structures under its jurisdiction, shall not be affected by the provisions of Part IV of the Convention. It is not clear in this instance whether the coastal State's rights are limited to cables and pipelines established by itself or if it includes those pipelines and cables constructed by other States who are authorised by the coastal State to explore and exploit the resources of the sea. Furthermore, the nature of the conditions which the coastal State may establish in connection with pipelines or cables entering its territory or territorial sea, the subject of Article 79(4) of the LOSC, is also not clear. However, it is reasonable to assume that the coastal State has the power to establish conditions with respect to the route of the pipelines and cables, and may include certain requirements such as construction standards and minimum depths.[114] This is particularly discernible from Article 79(3) of the LOSC which makes the delineation of the course for the laying of such pipelines on the continental shelf subject to the consent of the coastal State.

8.5 Conflict with Other Uses of the Sea

Beside navigation, fisheries and the laying of cables and pipelines, a number of other activities may take place on the sea and its subsoil which may also conflict with the establishment and use of oil rigs. Artificial islands and structures for purposes other than the exploration and exploitation of the natural resources of the sea, scientific research, dredging and recreational activities are examples of activities which may interfere with the construction and use of oil rigs.

8.5.1 Artificial Islands and Structures for Purposes Other Than the Exploration and Exploitation of the Natural Resources of the Sea

Artificial islands, installations and structures for certain purposes such as wind energy and other economic uses, established under Articles 56 and 60 of the LOSC with reference to the EEZ and continental shelf, may interfere with installations for the purpose of exploring and exploiting oil and gas. However, the coastal State has the exclusive right to construct and to authorise and regulate the construction, operation and use of both structures for the intention of exploring and exploiting the natural resources of the sea and installations for other endeavours.[115] The conflict may arise when the coastal State has authorised a foreign State to establish certain artificial islands which at some point interfere with those installations established by the coastal State itself. For example, country A, by agreement, authorises country B to establish military installations in its EEZ. These military installations then interfere with oil rigs established by country A. How is the conflict to be resolved? It is also possible that installations established by two separately authorised foreign States on the EEZ and continental shelf of the coastal State may interfere with each other.

The coastal State has the exclusive right to regulate the operation and use of all types of offshore installations.[116] Jurisdiction with regard to customs, fiscal matters, health, safety and immigration laws and regulations are examples of the coastal States' jurisdiction over such installations.[117]

A question arises as to whether the coastal State has jurisdiction with respect to the conflict between the different uses of offshore installations in its EEZ and continental shelf. If we accept the fact that in the event of a conflict between different types of installations, the coastal State is authorised to decide and to manage the conflict, then perhaps in those cases in which the coastal State itself is involved, justice requires that an impartial third party determine the issue. It may be reasonable to conclude that in the absence of treaty conditions, where there is a conflict between the installations of two other States, rather than the coastal State, the coastal State as arbitrator, may be the correct solution. However, in those cases

where the coastal State itself is involved in the dispute, then the provisions of Part XV of the LOSC are applicable.

On the high seas, all States have the freedom to construct artificial islands and all types of offshore installations are permitted under international law. As such, they shall have due regard to the interests of other States in the exercise of that freedom.[118] The coastal State and other States have equal rights in relation to the establishment and use of oil platforms. However in the Area, the seabed beyond the limits of national jurisdiction, all activities in relation to the exploration and exploitation of the natural resources of the sea shall be carried out and controlled by the Authority with reasonable regard for other activities in the marine environment.[119] Offshore installations in the Area shall be erected in accordance with the Provisions of Part XI of the LOSC and subject to the rules, regulations and procedures of the Authority. The LOSC provides that offshore installations in the Area and their safety zone shall not be established where interference may be caused to the use of recognised sea lanes essential to international navigation or in areas of intense fishing activities.[120] However, the Convention is silent with respect to interference between different types of offshore installations. It is reasonable to say that in the Area, where there is conflict between different types of installations, those States and companies who are constructing and using the installations for the purpose of the exploration and exploitation of the natural resources of the sea shall follow the regulations and the instructions provided by the Authority. All conflicts should be resolved with regard to the provisions of the Part XV of the Convention.[121]

8.5.2 Conflict with Marine Scientific Research

Freedom of marine scientific research[122] is one of the fundamental freedoms of the high seas recognised by the 1958 Geneva Conventions on the Law of the Sea[123] and the 1982 LOSC.[124] The establishment and use of oil rigs for the purpose of exploration of the continental shelf and exploitation of its natural resources may result in interference with scientific research. This is particularly possible on the high seas. It has been said that for the future, most installations established on the high seas will be employed for the purpose of marine scientific research.[125]

8.5.2.1 On the Continental Shelf and in the EEZ According to Article 5(1) of the 1958 Geneva Convention on the Continental Shelf, the exploration of the continental shelf and the exploitation of its natural resources must not result in any interference with fundamental oceanographic or other scientific research carried out with the intention of open publication.[126] However, paragraph 8 of the same Article provides that the consent of the coastal State is required in respect of any research concerning the continental shelf

and undertaken there.[127] This means that according to the provisions of the Continental Shelf Convention any kind of interference with fundamental scientific research, with regard to the exploration and exploitation of the continental shelf and its resources, is prohibited. Since only the coastal State has sovereign rights in relation to the exploration and exploitation of the continental shelf and its resources, and exclusive jurisdiction over the resources and related offshore installations, the prohibition of interference with fundamental scientific research, referred to in paragraph 1, is primarily aimed at interference caused by the coastal State. It includes interference resulting from the use of oil rigs and other offshore installations. Therefore, the jurisdictional exercise of the coastal State over its offshore oil rigs in its continental shelf may not result in interference with scientific research as long as the consent of the coastal State was obtained and the provisions of Article 5(8) have been met.[128]

The LOSC deals with the issue of marine scientific research and its interference with other uses of the sea, including conflict with oil rigs, more comprehensively than the Continental Shelf Convention. According to the LOSC, marine scientific research in the territorial sea shall be conducted only with the express consent of and under the conditions set forth by, the coastal State.[129] The coastal State has the exclusive right to regulate, authorise and conduct marine scientific research in its territorial sea.[130] Therefore, if a coastal State authorises the conduct of scientific research in its territorial sea, when there is any conflict between the conduct of such research and oil rigs operating on the territorial sea, the coastal State may impose any conditions it deems appropriate in order to deal with the problem. This power also derives from the fact that the sovereignty of the coastal State extends to its territorial sea.[131]

According to the LOSC, the coastal State has jurisdiction in the EEZ, as provided for in the relevant provisions of this Convention, in relation to marine scientific research.[132] Article 58 of the LOSC does not apply the freedom of scientific research to the exclusive economic zone. Article 246 of the LOSC provides that in the EEZ, coastal States have the right to regulate, authorise and conduct marine scientific research in accordance with the relevant provisions of this Convention.[133] All marine scientific research activities conducted in the EEZ and the continental shelf shall be conducted with the consent of the coastal State.[134] Although the coastal State shall, in normal circumstances, grant its consent for marine scientific research projects by other States in its EEZ and continental shelf, the consent may be withheld in certain specified cases. This includes scientific projects which are of direct significance for the exploration and exploitation of natural resources, involving drilling into the continental shelf or the construction, operation or use of artificial islands, installations and structures referred to in Articles 60 and 80 of the LOSC.[135] Finally, marine scientific research

activities, permitted by the LOSC, shall not interfere with activities undertaken by coastal States in the exercise of their sovereign rights and jurisdiction as provided for in this Convention.[136]

Considering the above mentioned provisions of the LOSC in relation to the construction and use of oil rigs for the purpose of exploration and exploitation of the continental shelf and its natural resources and scientific research in the EEZ and continental shelf, it may be surmised that there are two types of conflict with the rights of the coastal States which may be caused by the carrying out of scientific research in the EEZ and continental shelf: firstly, those scientific research projects which are of direct significance to the exploration and exploitation of natural resources involving drilling in the continental shelf and/or the construction and use of structures such as artificial islands; secondly, those marine scientific research activities which unjustifiably interfere with the sovereign rights and jurisdiction of the coastal State. In the first instance, the coastal State may withhold its consent if any of these activities take place on its continental shelf. The definition and scope of the second instance, is not clear. In conjunction with the above, Article 240(c) of the Convention provides that marine scientific research shall not 'unjustifiably interfere' with other legitimate uses of the sea compatible with the Convention and shall be duly respected in the course of such usage. Although more specific in nature, Article 246(8) lacks the requirement to duly respect marine scientific research in the course of other legitimate uses of the sea as provided for by Article 240. This means that the activities of the coastal States, including the erection and operation of oil rigs, take priority over scientific research undertaken by other States in the EEZ and on the continental shelf. The words 'unjustifiably interfere' demonstrate that not every type of interference by scientific research with offshore activities and the operation of oil platforms on the EEZ and continental shelf entitles the coastal State to withhold its consent to the conduct of a marine scientific research project of another State or competent international organisation in the EEZ or on the continental shelf. However, the exact meaning of 'unjustifiable interference' has not been clarified.

8.5.2.2 On the High Seas The high seas are open to all States, whether coastal or land locked.[137] Competent international organisations and all States have the right to conduct marine scientific research in the water column beyond the limits of the exclusive economic zone and in the Area.[138] At the same time offshore installations in the Area shall be erected in accordance with the Provisions of Part XI of the LOSC and are subject to the rules, regulations and procedures of the Authority. In addition, the establishment of offshore installations in the Area, where interference may be caused to the use of recognised sea lanes essential to international navigation, or in areas of intense fishing activities is prohibited.[139] The LOSC does not provide any

regulations in relation to conflict between oil platforms, erected on the Area, and marine scientific activities occurring in the Area. Therefore, as stated previously, where there is a conflict between oil rigs and other offshore installations, any conflict must be dealt with in accordance with the general rules of the settlement of disputes as delineated in the provisions of Part XV of the LOSC.

8.5.3 Conflict with Recreational Activities and Dredging

Recreational activities in coastal areas are increasing in many countries and have become a major source of tourism. The demand for water-oriented recreation is expanding rapidly.[140] Therefore, States are now showing an interest in establishing marine parks and protecting their coastal marine areas. An example of a marine park is the Great Barrier Reef off the coastline of Queensland in Australia.[141] The Great Barrier Reef covers approximately 345,000 square kilometres, includes 2900 reefs, and 300 coral cays and 600 continental islands, and includes tourism and fishing as its most significant industries.[142]

The erection and use of oil rigs close to near-shore marine areas designated for recreational use may be destructive. It may cause view and oil pollution. Oil rigs can blow out or accidents involving supertankers can occur which may create severe problems for the tourism industry.

In Australia the Great Barrier Reef Marine Park (Prohibition of Drilling for Petroleum) Regulations 1983 (Cth) prohibits seabed exploration and drilling in the Park and in the Reef area outside the Park.[143] According to the Great Barrier Reef Marine Park Act 1975 (Cth), operations for the recovery of minerals are prohibited 'except for the purpose of research and investigations relevant to the establishment, care and development of the Marine Park or for scientific research'.[144]

The seabed may also be dredged for a variety of reasons including exploration of the beach sand and for mineral resources other than oil.[145] Dredging of the seabed can lead to erosion of the floor near oil structures and cause it to collapse. It can also damage the subsurface equipment of floating platforms. Dredging is only carried out in coastal areas and is totally incompatible with the emplacement and use of offshore oil rigs.[146]

It is much easier to resolve this kind of conflict. These activities are usually carried out in coastal areas or in areas close to the coast. The coastal State has absolute sovereignty and exclusive jurisdiction in these areas. Accordingly, it can regulate the different activities by means of national legislation. The issue may become an international one if drilling activities by the authorised foreign State are underway on the continental shelf and in the EEZ of the coastal State. In such a situation, drilling and related activities, such as the movement of mobile drilling rigs, and the discharge of

oil to the sea from oil platforms, may affect both the recreational and dredging activities.

The conflict between oil rigs, recreational activities and dredging is not dealt with directly by the LOSC. The issue may be considered from a more general point of view as a conflict between oil rigs and the marine environment. This was discussed in detail in Chapter 5. General discussions in Chapter 5 relating to conflicts between the different uses of the sea are applicable to the conflict between the establishment and operation of oil rigs, recreational activities and dredging.

8.6 Conclusion

Different marine activities may be in conflict with each other. This includes the traditional use of the sea, navigation, and modern uses such as offshore oil production and fishing, which may also interfere with each other. The emplacement and use of offshore oil rigs may interfere with fishing, navigation and a number of other uses of the sea.

Although the LOSC provides certain provisions in order to resolve the conflict between fisheries and offshore oil drilling activities in different areas of the sea including the continental shelf, the EEZ and the high seas, it fails to offer a comprehensive solution. However, since the coastal State does have exclusive rights over fishing and offshore oil production in its EEZ, the conflict in this area is not as crucial as it can be on the high seas, where fishing is open to all States. The philosophy behind the creation of the EEZ, to serve the economic interests of the coastal State, requires that in any conflict between the economic interests of the coastal State and the rights of other States, the right of the coastal State will prevail. Final dispute settlement relating to the conflict between fisheries and oil rigs should be subject to Part XV of the LOSC.

In relation to the conflict between fishing and the operation of offshore oil rigs the LOSC does not offer any mechanism for resolution except the general concepts of equity and settlement of disputes. The existing provisions of the LOSC relating to the preservation of living resources of the high seas are largely related to the problem of over fishing and are not concerned with the conflict between fishing and other uses of the sea.[147]

The 1958 Geneva Convention on the Continental Shelf and the LOSC do not delineate any priority between navigation and the other uses of the sea. Therefore, in the absence of any specific regulations in the LOSC, it seems that on the high seas and the waters superjacent to the continental shelf and the EEZ, the right of navigation will prevail over the right to establish oil rigs in situations where the construction of oil platforms on a large scale would hamper international navigation.

Conflict between the construction and operation of oil rigs, with the laying of cables and pipelines, other artificial islands and installations and marine scientific research are dealt with by the LOSC in that it mentions that these activities shall not unjustifiably interfere with other uses of the sea. The coastal State does have the jurisdiction to regulate different activities on its continental shelf and its EEZ. However, in cases where the rights of the coastal State interfere with the rights of other States, particularly on the waters superjacent to the continental shelf and the EEZ, the issues require international law to provide solution to resolve the conflict.

State practice shows that most legislation which contain provisions in relation to conflict and other uses of the sea, particularly fisheries, try to minimise conflict between these uses of the sea. Similar to international treaties, State legislation has not given any priority to either fishing activities or offshore oil production.

To date international law has failed to provide a comprehensive legal framework to solve conflicts between the different uses of the sea. Although the rights of the coastal States in its continental shelf and the EEZ, and the freedom of navigation in different parts of the sea are reasonably well protected, the scope of other modern uses of the sea is not well defined in international law.

It is proposed that the issue of conflict between oil installations and other uses of the sea needs to be addressed in detail in an international instrument. Particularly the scope of the rights and duties of coastal States, other States and the international community in relation to the construction of oil rigs and other uses of the sea needs to be specified in such a way as to reduce the inherent conflicts. Conflict between oil installations and other uses of the sea will certainly increase in the future as the advance of technology will facilitate greater use of the sea and its resources. International law has to find an answer to the issues of conflict which arise between different uses of the sea.

Notes

1. LOSC, Arts 11, 56(b)(i), 60, 147(2), 180, 208, 209, 211, 214, 216, 218, 219, 220, 259.
2. LOSC, Arts 21, 22, 27, 38, 43, 53, 58(1), 60(6), 78, 147(e), 297(1)(a).
3. LOSC, Arts 21(1)(e), 42(1)(c), 51(1), 61-73, 87(1)(e), 116, 119(1)(a), 147(2)(b), 297(3).
4. LOSC, Arts 36, 38(2), 44, 53(3), 53(4), 58(1), 87(1)(b), 297(1)(a).
5. LOSC, Arts See for example, LOSC, Arts 19(2)(k), 39(3)(b), 94(3)(c), 94(4)(b), 94(4)(c), 109(3)(c), 312(1), 313, 314(1).
6. LOSC, Art 277(a).
7. LOSC, Art 149.

8. LOSC, Arts 107, 110(4), 110(5), 111(5), 224, 298(1)(b).
9. LOSC, Arts 137(2), 137(3), 151(1)(a).
10. LOSC, Arts 87(1)(f), 56(1)(b)(ii), 143(1), 240(a), 200, 243, 244, 247, 275, 246(1), 246(2), 246(3), 246(5), 246(6).
11. BH Oxman, 'The Law of the Sea Convention' (1994), The American Society of International Law, November-December 1994, p 3, available in Lexis, INTLAW library, INTLR file.
12. JP Grant, 'The Conflict Between the Fishing and the Oil Industries in the North Sea, A Case Study' (1978) 4 *Ocean Management* 137 at 137.
13. See Chapters 4, 5 and 6 above.
14. For a study of the conflict between fisheries and the freedom of navigation see WT Burke, 'Exclusive Fisheries Zones and Freedom of Navigation' (1983) 20 *San Diego LR* 595.
15. JD Wahiche, 'Artificial Structures and Traditional Uses of the Sea' (1983) 7 *Marine Policy* 37 at 40.
16. *Ibid.*
17. See F Deborah, 'Estimating the Potential Impact of Oil Spills on Georges Bank Fisheries' (1990) 34 Maritimes 12 at 12-13; JD Wahiche, 'Artificial Structures and Traditional Uses of the Sea' (1983) 7 *Marine Policy* 37 at 40.
18. Note by the IMO Secretariate 50/25/5, 19 October 1984, as discussed by G Ulfstein, 'The Conflict Between Petroleum Production, Navigation and Fisheries in International law' (1988) 19 *ODIL* 229 at 237.
19. MS Ball, 'Good Old American Permits: Madisonian Federalism on the Territorial Sea and Continental Shelf' (1982) 12 *Environmental Law* 623 at 665.
20. *Ibid* at 666.
21. *Ibid.*
22. JD Wahiche, 'Artificial Structures and Traditional Uses of the Sea' (1983) 7 *Marine Policy* 37 at 40.
23. JP Grant, note *supra*, at 137-149.
24. *The Oil Daily*, 13 July, 1990.
25. Freedom of fishing on the high seas is mentioned in Arts 87(1)(e) and 116 of the LOSC; for a commentary on the regime governing the high seas fisheries resources see JM Van Dyke, 'Modifying the 1982 Law of the Sea Convention: New Initiatives on Governance of High Seas Fisheries Resource: the Straddling Stocks Negotiations' (1995) 10 *IJMCL* 219.
26. LOSC, Art 69.
27. The 1958 Continental Shelf Convention, Art 5(1).
28. The 1958 Continental Shelf Convention, Art 5(2).
29. JP Grant, note *supra*, at 139: "This Convention [the Continental Shelf Convention] provides that exploratory and extractive operations must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea. What is or is not 'unjustifiable' is a difficult question, involving a value judgement, and one would expect the interpretation that might be put on that term by the fishing and oil industries to differ. Nonetheless, it seems clear that contemporary international law deems continental shelf rights to be superior to fishing rights".

30. LOSC, Art 77(4).
31. LOSC Art 78(1).
32. See LOSC, Art 62(2), 69 and 70.
33. See WT Burke, *The New International Law of Fisheries*, Clarendon Press (1994) pp 44-51, S Garcia et al, 'The New Law of the Sea, and the Access to Surplus Fish Resources: Bioeconomic Reality and Scientific Collaboration' (1986) 10 *Marine Policy*, No 3, 192 and ED Brown, *The International Law of the Sea*, Dartmouth (1994) Vol I, pp 222-226.
34. SN Nandan and S Rosenne, *United Nations Convention on the Law of the Sea, A Commentary*, Martinus Nijhoff (1993) Vol II, pp 901-902: Related documents in the Seabed Committee included: A/AC 138/80, Continental Shelf, paragraph 4, reproduced in SBC Report 1972, at 70, 72(Declaration of Santo Domingo); and A/AC.138/SC.II/L.21, Art 15, reproduced in III SBC Report 1973, at 19, 21 (Columbia, Mexico and Venezuela). Both documents distinguished between the regimes applied to the 'patrimonial sea' and the continental shelf. See also A/AC.138/SC II/L.35 and Corr 1, Art 4, *ibid* 75, 77(USA), providing that rights granted to the coastal State in the 'coastal seabed economic area' were not to affect the rights of freedom and of navigation and overflight.
35. USSR (1979, mimeo), Art 80, paragraph 1 (NG6/8). Reproduced in IX Platzoder 377, 378.
36. A/CONF 62/L.37 (1979) Art 78 bis, XI OFF Rec 100, 101 (Chairman, NG6), as discussed in SN Nandan and S Rosenne, *ibid.*
37. SN Nandan and S Rosenne, *ibid*, p 906.
38. LOSC, Art 79.
39. LOSC Art 238.
40. LOSC Art 62(4).
41. "The International Court of Justice has always made a clear distinction between decisions applying rules of equity, which are a part of international law, and those made *exaequo et bono*, in which the Court may go beyond existing rules of international law to fashion a decision that may have a 'legislative' character". For recent expressions of the Courts' view on this issue, see Case Concerning the Continental Shelf (Tunisia v Libya), 1982 ICJ 18, 60 (Judgement of 24 February); Fisheries Jurisdiction Case (UK v Ice), 1974 ICJ 4, 33 (Judgement of 25 July); North Sea Continental Shelf Cases (Ger v Den; Ger v Neth) 1969 ICJ 4, 46-50 (Judgement of 20 Feb); HB Robertson, 'Navigation in the Exclusive Economic Zone' (1984) 24 *VJIL* 866 at 884-885.
42. For the concept of equity in relation to fishing rights in the EEZ see DP O' Connell, *The International Law of the Sea*, Clarendon Press (IA Shearer 1982) Vol I, p 538; see also M Tsamenyi and M Herriman, 'Ocean Energy and the Law of the Sea: The Need for a Protocol' (1998) 29 *ODIL* 3 at 9-10; SN Nandan and S Rosenne, note *supra*, p 569: "Article 59 is the only provision in the Convention in which there is a direct reference to 'equity' in a normative text for the resolution of conflicts regarding the attribution of rights and jurisdiction in the exclusive economic zone. Equity is not an abstract concept, but is qualified by the provision that a conflict resolved on the basis of equity should take into account 'the respective importance of the interests involved to the parties as well as to the international community as a whole'".
43. For a study of evolution and the nature of the EEZ see, JI Charney, 'The Exclusive

Economic Zone and Public International Law' (1985) 15 ODIL 233; RB Krueger, and MH Nordquist, 'The Evolution of the 200 Mile Exclusive Economic Zone, State Practice in the Pacific Basin' in International Law Association, Report of the 58th Conference, Manila, 1978, London 1980, pp 248-89.

44. SN Nandan and S Rosenne, note *supra*, p 569.
45. LOSC, Art 58(1).
46. LOSC, Art 58(3).
47. Elliot Richardson.
48. E Richardson, 'Navigation and Other Traditional National Security Considerations' (1982) 19 *San Diego L.R* 553 at 572-573.
49. See Australian Petroleum (Submerged Lands) Act 1967, Section 124; Great Britain Petroleum (Production) Regulations 1966, Art 17; United States Outer Continental Shelf Lands Act Amendments of 1978, Findings (13); Belgium Loi sur le plateau continental de la Belgique, 1969, Art 5; Italy Act No 613, 1967, Art 2; The Netherlands Loi relative aux installations dans la mer du Nord, 1964, Art 7; Sweden Regulations No 315, 1966, Art 6; Norway Petroleum Act, 1985, Art 45; and Venezuela Law, 1977, Art 8.
50. G Ulfstein, note *supra*, at 235.
51. See LOSC, Art 62(4).
52. LOSC, Art 62(4).
53. LOSC, Art 297(3)(a).
54. LOSC, Art 87(d).
55. LOSC, Art 116 and 87(e). See also JA de Yturriaga, 'Fishing in the High Seas: from the 1982 UN Convention on the Law of the Sea to the 1995 Agreement on Straddling and Highly Migratory Fish Stocks' in AA Yusuf, *AYBIL* (1995) 151 at 153.
56. For a discussion of the freedom of fishing in the high seas see, JA de Yturriaga, *ibid* at 151.
57. LOSC, Arts 60(1) and 56.
58. LOSC, Art 147(2).
59. Fishing on the high seas has increased because of a number of reasons including expanding global fleet capacity and increasing demand for food: A Bergin, 'Political and Legal Control over Marine Living Resources - Recent Developments in South Pacific Distant Water Fishing' (1994) 9 *IJMCL* 289 at 300.
60. JA de Yturriaga, note *supra*, at 152.
61. For an examination of the development and implementation of the CCAMLR, see R Rayfuse, 'Enforcement of High Seas Fisheries Agreements: Observation and Inspection Under the Convention on the Conservation of Antarctic Marine Living Resources' (1998) 13 *IJMCL* 579.
62. The Implementation Of The Provisions of The Nations Convention On The Law Of The Sea Of 10 December 1982 Relating to the Conservation And Management Of Straddling Fish Stocks And Highly Migratory Fish Stocks, UN Doc A/Conf 164/37 (1995), reproduced in 34 I.L.M (1995) 1542. For a commentary on this Treaty see JM Van Dyke, note *supra*.
63. LOSC, Arts 87(1)(d) and 87(1)(e).
64. See JD Wahiche, note *supra*, at 40 and WT, Burke, note *supra*, at 596.
65. See JD Wahiche, note *supra*, at 38.
66. G Ulfstein, note *supra*, at 233.

67. *Ibid* at 235.
68. *Ibid* at 236.
69. LOSC, Art 58.
70. LOSC, Art 58(1).
71. Even freedom of navigation in the high seas is not absolute. The LOSC prohibits freedom of ships which are engaged in piracy (Art 100), transportation of slaves (Art 99), unauthorised broadcasting (Art 109), illicit traffic in narcotic drugs and psychotropic substances contrary to international conventions (Art 108).
72. LOSC, Art 56(1)(a).
73. LOSC, Art 56(1) (b)(i).
74. LOSC, Art 60(4).; for a discussion in relation to safety zones around offshore installations, see above Chapter 5.
75. LOSC, Art 60(5).
76. LOSC, Art 56(2).
77. Canada, Chile, Iceland, India, Indonesia, Mauritius, Mexico, New Zealand and Norway.
78. A/CONF 62/L.4 (1974), Arts 12, 15 and 16, III Off Rec 81, 82 as discussed in SN Nandan and S Rosenne, note *supra*, p 526
79. A/CONF 62/30.2/L.21/Rev.1 (1974), Art 1, paragraph 2, III Off Rec 1999 (Nigeria) as discussed in SN Nandan and S Rosenne, *ibid*, p 527.
80. Second Committee, 28th meeting (1974), para 54, III OFF Rec 221, as discussed in SN Nandan and S Rosenne, *ibid*, pp 528-529.
81. Group of 77 (1975, mimeo), Art 2 and 4. Reproduced in IV Platzoder 227, 228.
82. LL/GDS Group (1975, mimeo), Arts 1and 2. Reproduced in IV Platzoder 234.
83. Art 261 of the LOSC contains a similar provision in relation to the establishment of scientific research. The Art requires that 'the deployment and use of scientific research installations or equipment shall not constitute an obstacle to established international shipping routes'. For a discussion of the legal status of marine scientific research installations see RR Churchill and AV Lowe, *The Law of the Sea*, Manchester University Press (1999) pp 412-414.
84. LOSC, Art 60(3).
85. LOSC, Art 60(3); for a discussion of the removal of offshore installations, see above Chapter 7.
86. LOSC, Art 58(3).
87. B Oxman, 'The Third United Nations Conference on the Law of the Sea: The 1976 New York Sessions' (1977) 71 *AJIL* 247 at 264; T Treves, 'Military Installations, Structures, and Devices on the Seabed' (1980) 74 *AJIL* 808 at 833; and TA Clingan 'An Overview of Second Committee Negotiations in the Law of the Sea Conference' (1984) 63 *Or L Rev* 53.
88. B Oxman, *ibid* at 263; M McDougal and WT Burke, *The Public Order of the Ocean*, Yale University Press (1962) p 692: 'Although, generally, an accommodation should be sought which permits both inclusive and exclusive uses, there are circumstances in which exploration for oil and other resources entailing with navigation ought to be completely prohibited as some areas may be so important for navigation that hindrances would be intolerable, as for instance in some straits or other areas which must necessarily be traversed by vessels'.
89. ED Brown, 'The Exclusive Economic Zone: Criteria and Machinery for the

Resolution of International Conflict Between Different Uses of the EEZ' (1977) 4 *Marine Pollution Management* 325 at 334: "It must be said that the balance of principles is weighed heavily in favour of the coastal States. It is a question of sovereign rights exercised with due regard to the rights of other States on the one hand; and, on the other hand, of the freedom of navigation, overflight, etc, being enjoyed 'subject to the relevant provisions of the present Convention, '... having due regard to the rights of the coastal State and in compliance with the laws and regulations of the coastal State".

90. JD Wahiche, note *supra*, at 39.
91. 2 ILC Yearbook (1956) p 299, Commentary to draft Art 71 (now Art 5).
92. RR Churchill and AV Lowe, note *supra*, p 175-176.
93. HB Robertson, note *supra*, at 883.
94. JD Wahiche, note *supra*, at 39.
95. See generally, G Plant, 'International Traffic Separation Schemes in the New Law of the Sea' (1985) 9 Marine Policy 134.
96. DP O'Connell, note *supra*, p 9-10, see also, WT Burke, Contemporary Law of the Sea, Transportation, Communication and Flight (1975) Law of the Sea Institute, University of Rhode Island, Occasional Paper, No 28; ED Brown, Passage through the Territorial Sea, Straits used for International Navigation and Archipelagos (1973); IA Shearer, 'Problems of Jurisdiction and Law Enforcement Against Delinquent vessels' (1986) 35 *ICLQ* 320; JM Van Dyke et al, *International Navigation: Rocks and Shoals Ahead?*, Law of the Sea Institute William S Richardson School of Law (1988).
97. International Law Association, Report of the Fifty Seventh Conference on Artificial Islands and Offshore Installations, Madrid, 30 August, 1976, to 4 September, 1976, p 397-443 at 426.
98. LOSC, Art 147(2)(a)(b).
99. LOSC, Art 147(2)(e).
100. LOSC, Art 147(3).
101. JD Wahiche, note *supra*, at 41.
102. LOSC, Art 79(1).
103. LOSC, Art 79(2).
104. LOSC, Art 79(3).
105. LOSC, Art 79(4).
106. LOSC, Art 79(4).
107. This paragraph corresponds to Art 4 of the 1958 Convention on the Continental Shelf Convention which reads: 'Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of submarine cables or pipelines on the continental shelf'.
108. See the Report of the International Law Commission relating to the work of its 8th session (A-3159), Art 61 and Commentary, and Art 70 and Commentary, II Year Book ILC1956, at 253, 293 and 299.
109. See SN Nandan and S Rosenne, note *supra*, pp 908-918.
110. A/CONF 62/WP.8/Part II (ISNT, 1975), Art 65, IV Off Rec 152, 163 (Chairman, Second Committee) as discussed in SN Nandan and S Rosenne, *ibid*, p 913.
111. A/CONF 62/WP.8/Rev.1/Part II (RSNT, 1976), Art 66, V Off Rec 151, 164 (Chairman, Second Committee) as discussed in SN Nandan and S Rosenne, *ibid*, pp 913-914.

112. LOSC, Art 87(e), 112(1)(2) and 79(5).
113. RR Churchill and AV Lowe, note *supra*, p 175.
114. See JD Wahiche, note *supra*, at 41 and R Young, 'Offshore Causes and Problems in the North Sea' (1965) 59 *AJIL* 505 at 521. See also the International Law Commissions' Commentary to Art 70 (now Art 4) of the 1958 Geneva Convention on the Continental Shelf (1956) 2 ILC Yearbook 299.
115. LOSC, Art 60(1).
116. LOSC, Art 60(1).
117. LOSC, Art 60(2); see Chapter 4 above.
118. LOSC, Art 87.
119. LOSC, Arts 153(1) and 147(1).
120. LOSC, Art 147(2)(b).
121. Part XV of the LOSC is entitled 'Settlement of disputes'. This part provides that 'States Parties shall settle any dispute between them concerning the interpretation or application of this Convention by peaceful means in accordance with Article 2, paragraph 3, of the Charter of the United Nations and to this end, shall seek a solution by the means indicated in Article 33, paragraph 1, of the Charter' (Article 279). It also provides: 'Nothing in this Part impairs the right of any States Parties to agree at any time to settle a dispute between them concerning the interpretation or application of this Convention by any peaceful means of their own choice' (Art 280).
122. There is an extensive amount of literature on marine scientific research, see for example, ED Brown, note *supra*, pp 417-44; RR Churchill and AV Lowe note *supra*, pp 400-420; AHA Soons, *Marine Scientific Research and the Law of the Sea*, Kluwer Law (1982); WS Scholz, 'Oceanic Research-International Law and National Legislation' (1980) 4 Marine Policy 91; ED Brown, 'Freedom of Scientific Research and the Legal Regime of Hydrospace' (1969) 9 *IJIL* 327 and JA Roach, 'Marine Scientific Research and the New Law of the Sea' (1996) 27 *ODIL* 59; M Gorina-Ysern, 'Marine Scientific Research Activities as the Legal Basis for Intellectual Property Claims' (1998) 22 *Marine Policy* 337. For a discussion of the legal status of research installations see N Papadakis, *The International Legal Regime of Artificial Islands*, Sijthoff (1977) pp 193-267.
123. See the 1958 Geneva Convention on the Continental Shelf, Arts 5(1) and 5(8); the 1958 Geneva Convention on the Territorial Sea and Contiguous Zone, Arts 1 and 2; and the 1958 Geneva Convention on the High Seas, Art 2.
124. LOSC, Part XIII and Art 87(f).
125. ED Brown, note *supra*, p 317.
126. The 1958 Geneva Convention on the Continental Shelf, Art 5(1).
127. The 1958 Geneva Convention on the Continental Shelf, Art 5(8).
128. Art 5(8) of the CSC provides: 'The consents of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless, the coastal State shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, subject to the provisions that the coastal State shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the result shall be published.'

129. LOSC, Art 245.
130. LOSC, Art 245.
131. LOSC, Art 2.
132. LOSC, Art 56(1)(b)(ii).
133. LOSC, Art 246 (1).
134. LOSC, Art 246(2).
135. LOSC, Art 246(5)(a)(b)(c).
136. LOSC, Art 246(8).
137. LOSC, Art 87.
138. LOSC, Art 257 and 256.
139. LOSC, Art 147(2)(b).
140. For a study of the American demand for water-based recreational activities and the social and economic aspects of shoreline recreation activities, see generally, DW Ducsik, *Shoreline for the Public*, Massachusetts Institute of Technology (1974).
141. For the legal status of the Great Barrier Reef, see W Crark, 'The Great Barrier Reef Marine Park: Its Establishment, Development and Current Status' (1992) 25 *Marine Pollution Bulletin* 122.
142. MWD White, *Marine Pollution of the Australasian Region*, Federation Press (1994) p 247.
143. Regulation No 148, amended by Regulation No 232 of 1983.
144. Section 38.
145. See K Beachler and TJ Campbell, 'Offshore Dredging is still Cost Effective for Beach Restoration?' in Dredging and Dredged Material Disposal, Vol 1, Proceedings of the Conference on Dredging 84, American Society of Civil Engineers (1984) 229.
146. JD Wahiche, note *supra*, at 41.
147. Even there is concern about the adequacy of the existing international legal regime with respect to management of fishing of the high seas. See A Bergin and M Haward, 'Australias' Approach to High Seas Fishing' (1995) 10 *IJMCL* 349 at 349.

9 Conclusions

9.1 Introduction

This chapter draws out and clearly states what was done and what are the findings of the study. It then proposes recommendations with respect to each separate issue examined in previous chapters. Finally, a general proposal with respect to an international legal framework for offshore oil rigs suggested.

9.2 What Was Done

This book has examined the international legal issues relating to the emplacement, operation and removal of offshore oil installations. The study has defined the significant international legal issues of offshore oil rigs and categorised them in six main chapters.

In order to analyse the legal issues of offshore oil rigs from an international law perspective, the study has collected relevant data, analysed the relevant portions of regional and international treaties, national legislation, State practice and existing literature. The book has gleaned a number of facts and has found new facts in relation to the international legal framework of offshore oil production from oil rigs. The study has traced a legal framework for the establishment, the operations and the decommissioning of offshore oil rigs from a public international law perspective. The findings indicate that in international law, offshore oil rigs, in spite of their increasing importance, are subject to fragmented and vague legal rules.

9.3 Findings

In *Chapter three* a study was carried out on the definition of 'ship' and 'vessel' in both national and international law. It was found that in the national laws of States there are no uniform rules or a set of common standards as to what kinds of oil rigs may qualify for the juridical status of ships. Therefore, for the purpose of municipal law, the question whether a type of oil rig is a ship or not is usually left to each piece of legislation to determine. Under international conventions most types of oil rigs fail to meet

the qualities essential of a ship, although a number of international treaties have treated 'ships' and 'oil rigs' under similar legal regimes.

The chapter concludes that it is not appropriate to include oil rigs in the category of artificial islands. This conclusion is based on the fact that the legal status of artificial islands has not yet been clarified in international law. Further, the legal nature of issues relating to oil rigs and artificial islands in many instances is different. Finally, most international treaties, particularly the most recent ones, do not consider oil rigs as artificial islands, although a number of treaties, notably the LOSC, have treated oil rigs and artificial islands under similar legal regimes.

Chapter four examined the issue of jurisdiction in relation to and on board offshore oil rigs. It showed that under the LOSC the right of the coastal State to construct oil rigs and other installations on its territorial sea should not hamper the innocent passage of foreign ships through the territorial sea. This is the most significant limitation on the rights of the coastal State to establish and use oil rigs in its territorial sea. The right of the coastal State to construct and to authorise the construction of oil rigs beyond 200 nautical miles is limited to instances where the continental shelf extends beyond the limits of the EEZ. With respect to internal waters and the territorial sea the criminal and civil law of the coastal State is applicable on board fixed oil rigs and mobile oil rigs which are engaged in the exploration and exploitation of oil and gas. The exclusive jurisdiction of the coastal State, including both criminal and civil jurisdiction, extends to those oil rigs which are owned and operated by States other than the coastal State on the continental shelf and the EEZ of the coastal State. Further, on the high seas, beyond the limits of national jurisdiction, no State has exclusive jurisdiction over oil rigs erected on the Area. The Authority lacks a judicial system or a code of civil or criminal law. However, the Authority is capable of concluding rules and regulations for administrative, procedural and financial matters relating to the erection and operation of oil rigs in the Area.

A finding in this chapter indicated that the LOSC addresses jurisdictional matters with respect to oil rigs constructed or used in the territorial waters, on the continental shelf and in the EEZ in a reasonably efficient way. However, jurisdictional issues are unresolved on the high seas beyond the limits of national jurisdiction.

In *Chapter five* the protection of offshore oil rigs in international law was examined. The study illustrates that under the LOSC the coastal State, in order to protect its oil rigs, may prevent innocent passage if foreign ships engage in any activities deliberately aimed at interfering with the installations of the coastal State in their territorial sea. However, if the foreign ships, when passing through the territorial sea of the coastal State, cause only minor interference with the coastal States' installations, the coastal State may reasonably require foreign ships to divert from their original course or follow

certain instructions.

It was also found that the establishment of safety zones around oil rigs is not enough to prevent collisions between oil installations and ships. Indeed the statistics of collisions between oil rigs and ships in the North Sea indicate that the 500 metres safety zones have not been effective enough to prevent collision. The adoption of the IMO resolutions with respect to the safety zones around oil rigs further indicates that these safety zones have not been effective to protect oil rigs against collision. The IMO Resolutions concerning the protection of oil rigs generally cover a detailed range of measures to prevent the infringement of safety zones around offshore oil rigs.

The 1988 Protocol for the Prevention and Suppression of Terrorism Against Fixed Platforms on the Continental Shelf takes a significant step for the protection of offshore oil rigs against terrorism and is the first international instrument that directly refers to the issue of the protection of offshore oil rigs.

The issue of the protection of offshore oil rigs has not been addressed in detail by the national laws of countries. The most significant implementation of a safety regime for the protection of offshore oil rigs by domestic laws has been the establishment of a safety zone around these installations.

Chapter six conducted a study on the environmental issues in relation to the establishment and the operation of offshore oil rigs. The findings in this chapter indicate: first, although the pollution from offshore oil rigs is only one aspect of the wider issue of pollution in the marine environment it is now a significant environmental problem which has been addressed as a separate issue by a number of recent international and regional treaties. Pollution prevention from oil and gas installations has become a standard clause in many international treaties from about 1980. A number of regional Conventions have adopted a Protocol, such as the 1994 Barcelona and the 1989 Kuwait Protocols, to especially cover the issue of pollution resulting from the exploration and exploitation of the natural resources of the continental shelves.

Second, the international legal framework for pollution from oil rigs is not based on a comprehensive and single legal regime. It is derived from a combination of international customary law, international treaties and regional agreements. Customary international law obliges States not to harm the environment of other countries. This applies to pollution from oil rigs as well. However, the scope of this doctrine is not yet clear. Similarly, general principles of law indicate only very basic obligations for the protection of the marine environment. This conclusion illustrates the importance of both international and regional treaties in relation to the control of marine pollution.

Third, the LOSC considers the issue of pollution from oil rigs as part of the general issue surrounding the protection and preservation of the marine

environment. Comparatively, the LOSC has dealt with the issue of pollution from oil rigs in a more efficient manner than the 1958 Geneva Convention on the Continental Shelf. However, the 1996 Protocol to the London Convention and the 1990 OPRC cover the issue of pollution from oil platforms with a more detailed and practical approach. The 1990 OPRC is the most competent international instrument which deals with the issue of pollution from oil rigs.

Finally, different aspects of pollution from offshore oil rigs are covered in a fragmentary way by various regional and international treaties. However, treaties concluded since the early 1990s have specifically addressed the issue of pollution from offshore oil rigs.

In *Chapter seven* the position of international law with respect to the issue of the decommissioning of offshore oil rigs is examined. The inconsistency between the 1958 Geneva Convention on the Continental Shelf and the 1982 LOSC has made the position of international law ambiguous with regard to the decommissioning of offshore oil rigs. This means that parties to the 1958 Continental Shelf Convention who are not signatories to the LOSC are under a strict duty to entirely remove their disused platforms. Whereas, parties to the LOSC may leave their platforms partially at sea.

This chapter illustrates that except for the 1958 Geneva Convention on the Continental Shelf all other international and regional treaties permit, under contain conditions, the partial removal of oil platforms. However, more recent treaties such as the 1996 Protocol to the London Convention and the 1992 OSPAR Convention make the dumping of oil platforms at sea subject to more restrictive requirements.

The State practice of major offshore oil producing countries, such as the UK and Norway, indicates a case by case approach as to whether a partial removal is permissible.

Following the Brent Spar incident, the pressure from public opinion has compelled oil companies and European countries of the North Sea to postpone the decommissioning of huge oil platforms. Further, the 1996 Protocol to the London Convention and the 1992 OSPAR Convention, concluded after the Brent Spar, to make the offshore disposal of oil rigs subject to restrictive conditions. Finally, in July 1998 the European nations decided to ban the dumping at sea of offshore steel platforms.

Chapter eight analyses the conflict between dominant interests at sea. A major finding of this chapter indicates that generally, the 1982 LOSC fails to offer a comprehensive solution for the conflict between the use and operation of oil rigs and other uses of the sea. This Convention only refers to the general concepts of equity and the settlement of disputes (subject to Part XV) for the resolution of conflict between offshore oil activities and other uses of the sea. The study further illustrates that neither the 1958 Continental Shelf Convention nor the LOSC expressly delineates any priority between

navigation and the construction and use of oil rigs. Therefore, it is concluded that in the absence of specific rules in these Conventions, on the high seas and the waters superjacent to the continental shelf and the EEZ, the right of navigation will prevail where the construction of oil platforms on a large scale would hamper international navigation. State practice is largely concerned with the two most important economic uses of the sea, fishing and offshore oil production.

In relation to the conflict between oil rigs and other uses of the sea, other than navigation and fishing, such as the laying of cables and pipelines or the use of artificial islands and marine scientific research installations, the LOSC mentions generally that these activities must not interfere unjustifiably with other uses of the sea. This general approach fails to provide solutions for the resolution of conflict between these activities and the use of oil rigs.

9.4 Recommendations

The examination of the different international legal aspects of offshore oil rigs indicates that the current international legal regime for offshore oil rigs is inadequate. This defect extends from the basic definition of oil rigs to their conflict with other uses of the sea.

Based on the conclusions of the book, in this section a number of possible solutions are recommended to solve, or at least reduce, the inefficiencies of the existing legal regime concerning offshore oil rigs.

These recommendations are divided into two categories: the recommendations for each significant legal issue; and a general recommendation.

9.4.1 Suggestions for Each Significant Legal Issue

This book makes suggestions with respect to the six significant legal issues in relation to the international legal framework for offshore oil rigs. These are: the definition of 'ship' in national and international law and the legal status of oil rigs in international law; the jurisdiction over and protection of oil rigs; pollution; the decommissioning of oil platforms; and, the conflict between oil rigs and other uses of the sea.

9.4.1.1 Definition of 'Ship' in National and International Law It is proposed that both international treaties and national legislation should clearly define the terms 'ship' and 'vessel'. The question as to what objects should be included in the definition of ship is not within the scope of this study. However, this study proposes that offshore oil rigs, because of the nature of the legal issues which impact on them, should be excluded from the

definition of ship in both national legislation and international treaties. Nonetheless, certain types of mobile oil rigs, notably, drilling ships, may be included in the definition of ship, when they are navigating at sea.

9.4.1.2 Definition of Offshore Oil Rigs First, artificial islands and offshore installations should, for legal purposes, be treated separately. Yet the category of 'offshore installations' should be divided into two separate categories: 'oil rigs' and 'installations for the purpose of the exploration and exploitation of the natural resources of the sea other than oil and gas and for other purposes'. Further, the latter can be divided into two classifications, namely 'offshore installations for the purpose of the exploration and exploitation of the natural resources of the sea and other economic purposes' and offshore installations for non economic purposes. The category of 'oil rigs' should include all offshore platforms, units, structures, whether fixed or mobile, which are concerned with the exploration, exploitation, drilling, production and storage of oil at sea.

9.4.1.3 Jurisdiction on Board and in Relation to Oil Rigs and Their Protection In relation to the jurisdiction on board, or in relation to offshore oil rigs on the high seas, it is proposed that this issue must be addressed in detail in future amendments to the LOSC. For the adequate protection of oil rigs the recommendations of the IMO Resolutions should, in the form of domestic legislation, be applied to oil rigs to guarantee the safety and protection of such installations against collision.

9.4.1.4 Pollution From and Decommissioning of Offshore Oil Rigs A comprehensive international treaty should be concluded to cover the fragmented existing international rules relating to pollution resulting from the exploration and production of offshore oil and gas. It is suggested that the approach of the OPRC should be considered as a model for treaties concluded in the future concerning the protection of the marine environment. It is also suggested that the issue of the decommissioning of offshore oil platforms requires a reasonable balance between environmental issues, economic impact, and public opinion. Considering the current technological feasibility and the physical nature of existing offshore oil rigs the alternative use of platforms, provided careful consideration is given to the environment, is the best approach, at least for the next ten years.

9.4.1.5 Conflict Between Offshore Oil Production and Other Activities at Sea With respect to the conflict between offshore oil production and other uses of the sea it is suggested that the issue must be addressed specifically by future international instruments and national legislation. The freedom of navigation, which serves the interests of the international community, should always prevail over offshore oil production.

9.4.2 General Recommendation

The issue of offshore oil production and all the attendant legal aspects of offshore oil rigs should be addressed comprehensively in an international treaty. Discussions in this study indicate that an international convention on oil installations and other offshore installations can significantly contribute in codifying legal principles relating to the different international legal issues surrounding such installations. However, advocates against such a treaty may argue that the chance for the conclusion of such a treaty is slim. Further, a number of international and regional treaties cover certain legal issues concerning offshore oil installations. Therefore, the completion of such a treaty is unnecessary. Nonetheless, as already stated, this study concludes that the current international legal regime of offshore oil rigs and other installations is vague, fragmentary and ineffective. Further, the chance for the conclusion of a new treaty or making amendments to the existing treaties is likely. The 1982 LOSC has already been modified[1] and suggestions have been made to change the existing legal regime of ocean energy[2] and high seas resources.[3] Also, proposals have been made to conclude a regional protocol to control pollution from offshore oil installations[4] and a convention concerning offshore craft and structures.[5]

Such an international convention should gather all the fragmentary existing rules and regulations relating to oil rigs in the different regional and worldwide conventions, such as the 1992 OSPAR Convention and the 1982 LOSC, and all the other relevant treaties discussed in this study. It is suggested that such a treaty should have six general sections which correspond to Chapters Three to Eight of this book. In other words it should have six parts: namely, the legal status of oil rigs, jurisdiction on board and in relation to oil rigs, the protection of oil rigs, pollution from oil installations, the decommissioning of oil platforms and the conflict between offshore oil production and other uses of the sea.

The first part of the treaty should clearly define ships, artificial islands, offshore structures and oil rigs. Oil rigs must be differentiated from ships. However, mobile oil rigs, when navigating at sea, should be treated as ships for the purpose of innocent passage. Making a clear division between ships, artificial islands such as industrial installations and artificial reefs, offshore installations such as military structures and scientific installations and oil rigs, will have a significant effect on the management of the main uses of the ocean.

After a clear definition of 'ship' and 'oil rigs' the treaty should address certain legal issues relating to offshore oil rigs which may be related to international aspects of these installations. These legal issues include

salvage, collision, registration, the law of flag, bills of sale, bottomry, financing and mortgagees.

The second part should clearly address all the jurisdictional issues which attach to offshore oil platforms. The rights of the coastal State to construct and operate offshore oil installations in different parts of the sea is defined in the 1982 LOSC. However, the proposed treaty should clearly determine the applicable criminal and civil law on board or in relation to oil rigs constructed in different maritime zones. In particular, this needs to be clarified in situations in which more than one State is involved in offshore oil production.

In its third section, the treaty should provide measures for the protection of offshore oil rigs against collision, terrorist and external attack to reduce collisions between vessels and oil installations. If the Contracting Parties can agree to a larger outer limit for safety zones than 500 metres, it can significantly reduce the rate of collisions. Further, the IMO recommendations in Resolutions A 621(15) and A 671(16) should be incorporated in this part of the treaty to protect oil rigs against the infringement of safety zones around the installations. For the protection of installations against terrorism, the State parties should agree to prosecute, punish and extradite individuals involved in terrorist activities against any kind of oil installation. Acts which endanger the safety of platforms and the people on board, such as a seizure or the exercise of control over fixed and mobile rigs by force and the destruction of platforms, should be criminalised by the national legislation of State parties.

Parts four and five of the proposed treaty should comprehensively address the issue of pollution from offshore oil rigs and their removal. The treaty should define pollution from these installations and provide measures to reduce and control such pollution. The provisions of the 1990 OPRC are good examples for consideration. The issue of the decommissioning of oil rigs can be addressed using the latest developments in Europe and using the model of the 1996 Protocol to the 1972 London Convention and the 1998 OSPAR Convention Decision discussed in detail in this study.

The final part of the treaty should address in detail the conflict between oil rigs and other, different uses of the sea. This is particularly important as the variety of the uses of the ocean for various economic purposes is increasing. As demonstrated in this study, international law provides few provisions with respect to the accommodation for the different activities at sea. At this stage three important activities, namely, navigation, fisheries, and offshore oil production, must be well accommodated. The treaty should particularly define the limits of interference with navigation, which can result in the prevention of the construction of oil installations.

The conclusion of such a treaty will facilitate the solution of serious international legal issues arising from the growing use of offshore oil rigs.

Considering the fact that more than 105 countries are currently involved in activities relating to the exploration for and exploitation of oil and gas from offshore resources, a large number of countries may become parties to such a treaty.

Notes

1. Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of Sea, New York, 10 December 1994, 33 ILM (1994) 1309.
2. M Tsamenyi and M Herriman, 'Ocean Energy and the Law of the Sea: The Need for a Protocol' (1998) 29 *ODIL* 3.
3. JM Van Dyke, 'International Governance and Stewardships of the High Seas' in JM Van Dyke, et al, *Freedom for the Seas in 21st Century: Ocean Governance and Environmental Harmony*, Island Press (1993) 13.
4. C Brown, 'International Environmental Law in the Regulation of Offshore Installations and Seabed Activities: the Case for a South Pacific Regional Protocol' (1998) 17 *AMPLJ* 109.
5. M White, 'Offshore Craft and Structures: A Proposed International Convention' (1999) 18 *AMPLJ* 21.

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