Protection of Offshore Energy Installations under the International Law
Abstract

The subject of this Thesis is the protection of energy installations in the marine environment. The Thesis examines first the categories and the types of installations providing the necessary definitions. To begin with, it must be examined how the right of establishing these installations is accomplished via the international legal framework at every marine zone (Territorial Sea – Contiguous Zone, Continental Shelf – Exclusive Economic Zone, High Seas). In this study, serious attention is paid for the analysis and the comprehension of the jurisdiction that states enjoy in any critical case regarding the offshore energy installation. Furthermore, the use of other legal bases, pursuant to International Law is examined for the protection of the installation, taking into account that they constitute not only legal bases but also principles which dominate International Law in general. Based on the analysis, important Tribunal cases are described where necessary. Moreover, part of this Thesis is dedicated to the Environment, since there is no complete protection of the installation without considering the environmental issues.

This Thesis concludes to the amendments and possible solutions that might be proved helpful, as regards the important relevant international conventions, principles and institutions, in order for the international legal framework to be empowered so that international community invests more in adopting the relevant provisions promoting effective measures, international cooperation and respect as regards the issue of the protection of offshore energy installations.

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Introduction

There is a long tradition in states exercising their rights in the exploration and exploitation of natural resources. It commenced with the right of applying cables and pipelines in the high seas. This right constituted a general principle of the international law since the 19th century and states could not prevent other states from this freedom. As far as the offshore energy installations are concerned, in the United States the first coastal oil rigs were constructed in the late 19th century. Henry L. Williams, for example was one of the pioneers in extracting oil from the Summerland field off the Californian coast near Santa Barbara in the 1890s. His first oil rigs were built on dry land, but in 1896, he finally managed to construct an offshore 100-metre pier from which he began drilling on the sea floor. Soon enough others followed. For these oil industry building offshore installations was “simply inconceivable”, technology did not allow the construction to be away from the shoe, so it was connected to mainland.¹

By the late 19th century, oil industry pioneers were venturing offshore. At first, piers connected the oil rigs to the mainland. Source: www.aoghs.org

It is a different story today. Offshore energy installations and especially, oil and gas production have become routine. There are currently around 900 large-scale oil and gas platforms around the world. Over time, engineers have penetrated even greater depths, with oil prices rising, deep water oil and gas production, although costly, is now a lucrative business. With drilling and extraction technology also becoming increasingly sophisticated, it is now possible to extract oil and gas at even greater depths. The water depth record for oil production was previously held by an international oil company which produces oil from a well, located in the Tobago field, 2934 meters below the surface of the Gulf of Mexico. According to the World Ocean Review, Volume 3 (2014)

¹ Oil and gas from the sea, P.10 available at: http://worldoceanreview.com/wp-content/downloads/wor3/WOR3_chapter_1.pdf
2, the water depth record for subsea gas production was around 2700 meters and was held by a platform located in the Cheyenne gas field, also in the Gulf of Mexico. But in January 2013 the latest world record offshore was established off the coast of India at a depth of 3165 metres.3 The most important current offshore production regions include the North Sea, the Persian Gulf, Western and Central Africa, the Gulf of Mexico, the Mediterranean, the Caspian Sea and Southeast Asia.4

![Worldwide offshore oil and gas production](source:A_plan_for_life_2011)

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3 Global Ocean Commission, from Decline to Recovery: A Rescue Package for the Global Ocean (GOC 2014).

Definition

As regards the International Law, there is no specific definition for the term “installation” and especially “offshore energy installation”. According to the present author, this might happen on purpose, international community may not define offshore installations to its benefit, so that it can be decided in a case by case method, without limiting the right of the coastal state to perform any action needed for the exercising of their rights by excluding any kind of installation. Although, interpreting the LOSC and the relevant provisions which offer the right to establish installations in the marine environment thanks to the granted right of state of exploration and exploitation of state’s natural resources, it is assumed that international community considers an offshore installation as any structure in the marine environment suitable for the use of the above right by the state.

A definition for the offshore installation can be found in the OSPAR Convention which describes it as “Offshore installation” meaning 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.”

On the other hand, as regards the European Union Law, there is a satisfied definition of the term in the EU Directive 30/2013 which concerns the safety of offshore oil and gas operations following more specific and specialized definitions.

“Installation’ means a stationary, fixed or mobile facility, or a combination of facilities permanently inter-connected by bridges or other structures, used for offshore oil and gas operations or in connection with such operations. Installations include mobile offshore drilling units only when they are stationed in offshore waters for drilling, production or other activities associated with offshore oil and gas operations”5

While at the same time the term offshore is explained by the same Directive as follows: “offshore’ means situated in the territorial sea, the Exclusive Economic Zone or the continental shelf of a Member State within the meaning of the United Nations Convention on the Law of the Sea6”

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5 See article 2, paragraph 19 of EU Directive 30/2013
6 See article 2, paragraph 2 of EU Directive 30/2013
In conclusion, we can consider that an Offshore Energy Installation is a large structure in the marine environment used to house workers and machinery needed to exercise any activities related to the production of energy. As a result, the term includes a wide variety of installations, from installations used for the production of energy from alternative sources of energy such as, wind generators or installations for wave energy, to installations for oil drilling. Offshore installations are not considered islands so they do not possess such status in the International Law, nor enjoy the rights and the maritime zones of the islands.\(^7\)

It can be considered also that energy installations, as for their use, are categorized as follows\(^8\):

1. Offshore Installations used for research, exploration and exploitation of fossil fuels, substantially: oil and natural gas
3. Cables and Pipelines.

In this point, it has to be mentioned that although Mrs. Gavouneli includes cables and pipelines in the above categorization, the majority does not include cables and pipelines because of the fact that the right of establishing installations for the exploration and exploitation of the natural resources is founded in different articles than the ones for the right to apply cables and pipelines in the relevant conventions, as a result it constitutes different rights. In this thesis we will mainly engage ourselves with the first two categories analyzing their special international legal framework.

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\(^7\) See article 259 LOSC

\(^8\) Maria Gavouneli, Ενεργειακές Εγκαταστάσεις στη θάλασσα, at Ρ. 2, Νομική Βιβλιοθήκη, September 2016,
From a more technological point of view, energy installations can be categorized in a different way to the one of the use because in this case cables and pipelines are not included. In particular they are categorized as follows:\(^9\)

1. Installations permanently fixed by piling (pile foundation)
2. Installations resting on the sea bed by action of gravity (gravity foundation)
3. Semi-submersible installations. These floating platforms are generally structures of the type. This term is used to indicate that there is a significant part of the structure located beneath the surface of the sea. The bulk of the structure’s mass, which provides the platform’s buoyant properties and start stabilization, are located well below the zone of turbulence and wave action characteristic of the air-ocean interface.\(^10\)

A common type of this category constitute the installations with excess of buoyancy, connected to a base by tensioned anchoring elements (tension leg foundation).

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The right to establish installations in the marine environment

I. Installations in the Territorial Sea

Necessary Conventions and Other Useful sources

- Convention on the Territorial Sea and the Contiguous Zone
- LOSC

The territorial sea is the belt of sea adjacent to a state’s land territory and internal waters, extending up to twelve nautical miles from the state’s baselines and is subject to the sovereignty of the coastal state; this sovereignty extends to the air space as well as to the sea bed and subsoil under the water. As a result the coastal state has exclusive jurisdiction in these spaces. Despite the fact that neither in the Convention on the Territorial Sea and the Contiguous Zone nor in the LOSC as well there is specific reference to the right of the coastal state to construct energy installations, there is no doubt that the state enjoys the absolute and exclusive right to regulate all resource-related activities, something that includes energy installations due to the full sovereignty that the state enjoys. It is important though the coastal state not to harm or to impede the right of innocent passage of other vessels in the territorial sea. 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

11 See articles 2 and 3 of UNCLOS and articles 1 and 2 of Convention on the Territorial Sea and Contiguous Zone (1958)
12 See articles 24 and 22 of UNCLOS
requirements of the rights of other States. Therefore, the construction of installations in the territorial sea should not cause any harm to the rights and also to the sovereignty of any other states concerned and in particular the neighboring States.

The LOSC convention alludes only twice to installations in the territorial sea. First of all, the article 19 is referred to the right of the innocent passage which always has to go hand in hand with the international standards of the international law while the paragraph 2 lists the cases when such right can be restricted or suspended completely. For a passage in the territorial sea to be considered innocent it must not be “prejudicial to the peace, good order or security of the coastal State”. More specifically, as regards the installations, if a vessel enters into “any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State”, it is regarded as prejudicial. By this provision, it is understandable that all kinds of installations are included.

First of all, according to article 25 of L.O.S.C. the coastal state has the right to take all appropriate measures to prevent this prejudicial vessel that aimed at interfering with the activity of an offshore installation from entering its territorial sea. As Harel states, it is important though for the states to be fully informed that the relevant vessel is engaged in an attempt to attack offshore installations. Hence, this authority would be of little utility where the coastal state lacked such information.

Secondly, the coastal state has the right to suspend the right of innocent passage for foreign vessels in specific areas of the territorial sea. Something like that is provided, prior to the LOSC, by the Convention on the Territorial Sea and the Contiguous Zone too. It is noteworthy that this suspension must have only a temporary effect and must be characterized as “essential for the protection” of the coastal state’s security. It takes

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13 See H. Esmaeili, “The Legal Regime of Offshore Oil Rigs in International law” at P. 85, THE UNIVERSITY OF NEW SOUTH WALES, 1999
14 Trail Smelter Arbitration (USA v. Canada) (1941) 3 RIAA 1905
16 See article 19, paragraph 2 (k) of UNCLOS
18 See article 25, paragraph 3 of LOSC.
19 See article 16, paragraph 3 of the Convention on the Territorial Sea and the Contiguous Zone
effect only after having been duly published. In other words, if it is essential for the protection and the safety of the installation, the coastal state can temporarily ban all vessels to navigate in this specific area (the area near the installation). This suspension can be proved useful in case of terrorist attacks, but due to the fact that is only temporary, the protection offered is limited. It is also important to mention that the coastal state also has the right to require foreign vessels to use designated sea lanes and prescribed traffic schemes. In particular, “coastal states are entitled to impose such requirements, especially with regard to the passage of tankers, nuclear – powered ships and ships carrying inherently dangerous or noxious substances or materials” 20. As a result a state could rightfully use this designated lanes in order to drive the vessels in a route which is not near the installation.

Furthermore, the coastal state may as well adopt laws and regulations, with respect to “the safety of navigation and the regulation of maritime traffic” and the protection of navigational aids and facilities and other facilities or installations” 21, with which foreign vessels must comply. In other words, the state can exercise its prescriptive and enforcement jurisdiction, especially over acts aiming at destroying or damaging offshore platforms in the territorial sea.

As regards the safety zones around offshore energy installation in the territorial sea, it is questionable whether states have the right to declare Safety zones in the same way as they do in the energy installations in the continental shelf and the Exclusive Economic Zone. It is undoubtful that the coastal state exercises full sovereignty in its territorial sea so such permissive norm is unnecessary.

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21 See article 21 of LOSC
II. Installations in the Continental Shelf and Exclusive Economic Zone

The global continental shelf, highlighted in cyan

Necessary conventions and other useful sources

- Proclamation by President Truman No. 2667 (1945)
- Convention on the Continental Shelf (1958)
- I.M.O. Resolutions A.671

Evolution of the right

To begin with the continental shelf is considered “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”\(^{22}\). It is noteworthy that islands have also continental shelf and its relevant rights.

\(^{22}\) See article 76, Definition of the continental shelf, LOSC
The concept of the coastal state having rights to its continental shelf and its EEZ does not stretch back into antiquity, states began exploring the seabed and building oil and gas platforms in earnest after World War II. There was little need to determine the status of features in waters beyond the territorial sea, as very few existed.\textsuperscript{23} As a result the necessity to determine the relevant legal regime accrued only after states with adjacent continental shelves started to exploit them. It is commonly accepted that the said right has its origins in the proclamation by President Truman in 1945\textsuperscript{24}. In the said proclamation it is explicitly mentioned that “the exercise of jurisdiction over the natural resources of the subsoil and sea bed of the continental shelf by the contiguous nation is reasonable and just.” It is worth mentioning that almost twenty years later the Truman Proclamation constituted the base for resolving the “North Sea Continental Shelf Cases” by the International Court of Justice. In the Judgment of 20 February 1969, the ICJ pointed out particularly that “A review of the genesis of the equidistance method of delimitation confirmed the foregoing conclusion. The "Truman Proclamation" issued by the Government of the United States on 28 September 1945 could be regarded as a starting point of the positive law on the subject, and the chief doctrine it enunciated, that the coastal State had an original, natural and exclusive right to the continental shelf off its shores, had come to prevail over all others and was now reflected in the 1958 Geneva Convention. With regard to the delimitation of boundaries between the continental shelves of adjacent States, the Truman Proclamation had stated that such boundaries "shall be determined by the United States and the State concerned in accordance with equitable principles". These two concepts, of delimitation by mutual agreement and delimitation in accordance with equitable principles, had underlain all the subsequent history of the subject.”\textsuperscript{25} Later to this proclamation, Chile in 1947,


\textsuperscript{24} Proclamation No. 2667, Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf, 3 C.F.R. 67 (1943-1948), 10 Fed. Reg. 12,303 (Oct. 2, 1945), reprinted in 13 DEPT STATE BULL. 485 (1945) [hereinafter Truman Proclamation]. Note that O’Connell discusses the writings of a number of authors prior to the Second World War, pointing out that the concept of a continental shelf in international law is not as recent as some authors would claim. However, he notes that the development of offshore drilling in the late 1920s and 1930s provided the practical impetus for developments in the 1940s. 1 D.P. O’connell, The International Law Of The Sea 467-70 (I.A. Shearer ed., 1982).

\textsuperscript{25} The North Sea Continental Shelf cases were a series of disputes that came to the International Court of Justice in 1969. They involved agreements among Denmark, Germany, and the Netherlands regarding the "delimitation" of areas—rich in oil and gas—of the continental shelf.
following by Peru and Ecuador in 1952, asserted sovereignty over the seas and continental shelf off its coast over 200 nautical miles.\textsuperscript{26}

The ICJ’s considerations over the issue of the coastal state’s rights and jurisdiction over the installations at sea are mentioned later in the final draft submitted to the United Nations General Assembly prior to the First United Nations Conference on the Law of the Sea (UNCLOS I), which is summarized as follows:\textsuperscript{27}

- The exploration of the continental shelf and the exploitation of its natural resources must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea.
- The coastal State is entitled to construct and maintain on the continental shelf installations necessary for the exploration and exploitation of its natural resources, and to establish safety zones at a reasonable distance around such installations and take those zones measures necessary for their protection.
- Such installations, though under the jurisdiction of the coastal State, do not possess the status of islands.

The first important step is that despite the fact that the 500 meter zone was not mentioned explicitly in the Draft Articles, it is mentioned in the commentary section below the said articles.\textsuperscript{28} All these were taken into account in order for the Convention on the Continental Shelf to be adopted in the first United Nations Conference on the Law of the Sea held in Geneva from 24 February to 27 April 1958. In particular, the right of the coastal state to explore and exploit its continental shelf and establish installations in the North Sea. For more information see “Summary of the Summary of the Judgment of 20 February 1969”, North Sea Continental Shelf Cases, Judgment of 20 February 1969, available at: \url{http://www.icj-cij.org/docket/index.php?sum=295&p1=3&p2=3&case=52&p3=5} \textsuperscript{26} See René Jean Dupuy, Daniel Vignes, A Handbook on the New Law of the Sea. 2 (1991), P.1077

for that purposes was codified in the article 5. The convention was adopted by 57 states and the main points of the relevant article were

I. first of all the coastal state have any right to explore and exploit its natural recourses in its continental shelf within a distance of 200 nautical miles but without any interruption to navigation, fishing or conservation of the lining resources nor any interruption to the fundamental oceanographic or other scientific research carried out with the intention of open publication.

II. The coastal state has any right to establish in its continental shelf installations for the exploration and the exploitation of its natural resources.

III. For the safety of the installation, the coastal state has also the right to establish safety zones around these installations, but the important thing that the radical breadth of these safety zones was first explicitly described in this article, which is 500 meters, adopting the suggesting meters from the ILC’ Commentary something that must be explicitly respected by ships of all nationalities.

IV. Such installations and artificial islands constructed in the continental shelf do not possess the status of islands, as a result they do not have territorial sea and the other maritime zones that islands have.

V. Due notice and other means of warning must be given for the establishment and the existence of such installations, while those that are no longer in use must be immediately removed.

VI. The recognized and essential for the navigation sea lanes must be respected and installations and the safety zones as well must not in any way whatsoever interfere with them.

VII. The coastal state is obliged to take, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents.

At first the continental shelf convention that referred to oil and gas installations was adopted by 57 states. But soon enough after the 1960s the production and the installations increased significantly, especially after the oil crisis in 1973 when the importance of a more certain and effective legal regime of the waters subject to coastal state was necessary in order for an efficient and effective exploration and exploitation

of coastal state’s natural resources. As a result many developed states would benefit and would need to participate in the Third United Nations Conference of the Law of the Sea in 1982. The regime for oceans and seas established by the Conference deals with a wide range of issues on ocean affairs and recognizes that the problems of ocean space are closely interrelated and need to be considered as a whole. Participation in LOSC is open to all States, including States that are not Members of the United Nations, such as the Holy See, the Cook Islands, and Niue, as well as to entities such as the European Union.30

The rights of the coastal state in its continental shelf and the Exclusive Economic zone were uncontroversial in the United Nations Conference on the Law of the Sea III. Among the issues discussed in Conference III was the breadth of safety zones taking into account that it was considered by many states insufficient. For example, in the 1973 proposal the United States suggested that coastal states should be authorized to determine the breadth of their safety zones as long as these zones are “reasonably related to the nature and function of the installation” and “conform to international standards”. A similar point of view was followed by other states such as Turkey and India, while at the same session, a proposal was made 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, but Argentina’s proposal, was limited the safety zone to 500 meters.31 However, because of the states’ fear of disturbing the “delicate balance between the exploitation of natural resources and the freedom of navigation”, the conference concluded in the re-adoption of the 500 meter rule, with a capability of extension under very specific circumstances.

The final articles of the Law of the Sea Convention referred to the coastal state’s right of establishing installations on Exclusive Economic Zone and the Continental Shelf were articles 60 and 80 which now constitute one of the main tools of the international community for the establishment of the right: 32

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31 See LOSC commentary to Harel P.147 and Esmaeli P. 151, supra note 17 and 13
32 See APPENDIX
In the article 80 of LOSC which refers to the right of the Coastal State in its Continental Shelf, it is mentioned that article 60 of the same Convention applies mutatis – mutandis on the Continental Shelf too.

The year 2012 marks the 30th anniversary of the opening for signature of the 1982 United Nations Convention on the Law of the Sea, which up until October 2012, has 164 parties (including the European Union). Up until the year 2017, the member states of LOSC amount to 168.\(^{33}\) LOSC was opened for signature at Montego Bay, Jamaica, on 10 December 1982 and entered into force on 16 November 1994. One of its implementing agreements, namely the 1994 Agreement relating to the implementation of Part XI of LOSC, was adopted on 28 July 1994 and entered into force on 28 July 1996. The other implementing agreement, the 1995 United Nations Fish Stocks Agreement (“Fish Stocks Agreement”) was opened for signature on 4 December 1995 and entered into force on 11 December 2001. Together, these three instruments provide a comprehensive legal regime for all activities in the oceans and seas.\(^{34}\)

III. Installations in the High Seas

Necessary conventions and other useful sources

2. Law Of The Sea Convention (LOSC) 1982

Evolution of the Right

Historically, the concept of the high seas was evolved in contrast to the territorial sea. Anything that was not territorial sea, belonged to the high seas, where freedom of navigation and fishery was guaranteed by the International law because national Jurisdictions was excluded. This concept lasted up until the 20\(^{th}\) century when claims of coastal states for larger exclusive fishery zones started to eliminate importantly the

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\(^{33}\) Last updated in 6 November 2017

\(^{34}\) See UNCLOS at 30 Supra note 30
sea zones that were not subjected to any national jurisdiction. The Further evolution of the EEZ regime and other conventional rights of coastal states constituted the factor for the limitation of the high seas regime.\textsuperscript{35} The first codification of the international law for the high seas regime took place in Geneva in 1958 where it embodied the relative customary law and it defined the term high seas as “all parts of the sea that are not included in the territorial sea or in the internal waters of a State”.\textsuperscript{36} In the Convention of the High Seas the right of states to construct and establish installations and artificial islands was not mentioned because by that time the technology offered to states could not allow the effective exploration of the subsoil of the high seas and the exploitation of its natural resources.\textsuperscript{37} Furthermore, in the Yearbook of the International Law Commission (1956), it is stated that “such exploitation had not yet assumed sufficient practical importance to justify special regulation”.\textsuperscript{38}

The construction of offshore installations and artificial islands on the high seas is one of the freedoms conferred on States by the 1982 LOSC. In the 1980s the difficulty that existed in relation to the establishment of installations for the exploitation had been overcome and that right could then be enshrined granting to every state inter alia, the “freedom to construct artificial islands and other installations permitted under international law, subject to Part VI”.\textsuperscript{39}

At the same time, undoubtedly any activity and any exercise of rights in the high seas by the states must be carried out with respect to “the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area”.\textsuperscript{40}

It is worth mentioning that article 87 grants the mentioned right only to states, excluding private entities. Something like that means that installations and artificial islands can

\begin{footnotes}
\item[35] See K. Ioannou – A. Strati, the Law of the Sea, P. 221-224 2nd edition, publication of Ant. N. Sakkoula, 2000
\item[37] See Hossein Esmaeli supra note 13
\item[39] See Article 87, paragraph 1 (d) of LOSC.
\item[40] See Article 87, paragraph 2 of LOSC. The rights of other states that are included in this article are basically the right of fishery (article 116), scientific research (article 87 (f)), laying or maintaining submarine cables or pipelines (article 112 (1)) and the conservation of living resources (article 110).
\end{footnotes}
be established only by states themselves or authorities (public or private) acting on behalf of states. As a result, any damage caused to the rights or interests of another State, the normal rules of State Responsibility will be applied.  

Private entities in order to exercise the above right must be act only as “de facto” state organ, so that it can be consider that they act on behalf of the responsible state.

The most characteristic case of the concept of private entities acting as a “de facto” state organ is the Yeager vs Iran Case in 1987 where the Arbitral Tribunal concluded that the rebels had the full support of the new leaders of Iran and they were incorporated in the state mechanism of Iran.

The provision for establishing safety zones of 500 meter-breadth around installations in the marine environment applies to the high seas too. It is submitted that the breadth of such a safety zone would still be limited to 500 meters, since it seems strange for an installation beyond coastal state jurisdiction to be restricted this way without similar restrictions on a high seas installation being imposed.

The present author also believes that taking into account that the point of the safety zones is to protect the installation itself and the people working on it, it would not make any sense if in the first case 500 meters are sufficient for the safety and in the other case 500 meters are not enough.

I.M.O Guidelines – Attempts for larger Safety zones

Although, International Maritime Organization (IMO) is mentioned by name only once in the text of the LOSC, many articles of the Convention, in their reference to “the competent international organization” implicitly recognize the standard – setting competence of IMO in the fields of navigation, pollution and other marine rights and responsibilities of states. States via IMO are expected to develop new international standards and regulations or revise existing rules on the relative subjects and are required to exercise their powers under LOSC taking into account the standards and

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41 See Hossein Esmaeli, P. 107, supra note 13
42 Article 5 of Responsibility of States for Internationally Wrongful Acts
44 See Kaye, P. 388, supra note 23
resolutions issued by IMO. It is noteworthy that some of the basic principles dominating the LOSC had been previously incorporated by IMO.\footnote{C.P. Srivastava, IMO and The Law of the Sea, The UN Convention on the Law of the Sea: Impact and Implementation, edited by E.D. Brown and R.R. Churchill, the Law of the Sea Institute, William S. Richardson School of Law, University of Hawaii, 1987, P. 419 - 425}

As regards the offshore energy installations, IMO follows the relevant provisions of LOSC, adopting the Resolution A.671 on “Safety Zones and Safety of Navigation around Offshore installations and structures” in 1989 (revoking resolutions A.621). Assembly Resolution relied on article 60 of LOSC

Since the conclusion of LOSC there have been many states that expressed their will for more efficient protection around offshore installations. First Canada proposed the extension of safety zones beyond 500 meters, the establishment of cautionary zones beyond safety zones in no more than 3 nautical miles and also the limitation of navigation to designated sea routes. Canada’s approach of LOSC caused many disagreements because it was considered that since it was contradicted the article 60 of LOSC, it would exceed of IMO’s mandate.\footnote{Geir Ulfstein, The Conflict Between Petroleum Production, Navigation and Fisheries in International Law, 19 Ocean Dev & INT’L. 229, 239 (1988) to Harel, supra note 17, P. 150} The continuing of these opposition led to the adoption of the above Guidelines

The basic points of the above IMO Guidelines ensure the states’ right of exploration and exploitation of their natural resources as long as this exercise does not interfere with the right of navigation of other states. It grants the important right of the establishment of safety zones around installations suggesting all states to take all necessary measures to avoid entering these safety zones, providing of course some exceptions. It recommends that state flags of vessel committed the infringement should inform dully and completely the coastal state about the infringement that took place, granting information about the vessel. At the same the coastal state must take all necessary measures to prevent any infringements and violations and if any occur, it is allowed to take action according to International Law\footnote{See IMO Resolutions A.671 on the “Safety Zones and Safety of Navigation around offshore installations and structures” 1989, available at: http://www.imo.org/blast/blastDataHelper.asp?data_id=22502&filename=A671.pdf} Considering the articles of the Guidelines, it is understood that their adoption aimed at the right implementation of
LOS/C. In the present author’s opinion it works as a tool of interpretation and this is why it has not been differentiated up until today.

After the adoption of the Guideline, states continued to question the efficiency of the 500 meter zone for the safety of the offshore installations. Brazil in 2007, submitted a proposal to IMO for the extension of the safety zone around oil platforms in the Campos Basin at a radius of 1,400 meters. The proposal was not approved, despite the fact that received general acceptance from many states. The United States of America opposed to Brazil’s proposal expressing the main concern about the establishment of larger safety zones. According to the US, it would tempt coastal states to try to use safety zones inappropriately to impair freedom of navigation. By erecting a collection of offshore structures and linking zones together into a string of small outposts, a country effectively could construct a regulatory wall to prevent legitimate transit, all under guise of enhancing navigational safety and environmental protection.

In Conclusion, any attempt for the extension of safety zones via IMO in the last years has failed. As a result, not only is there no example of IMO authorization for safety zones larger than 500 meters, but also there are no guidelines or procedures for evaluating requests for larger safety zones. Judging by the IMO’s approach so far, it seems rather unlike that it would approve any extension of safety zone in the near future.

Safety Zones

Definition and General Information

A surface safety zone is an area extending 500m from any part of an installation and is established automatically around all installations which project above the sea at any state of the tide. Subsea installations may also have safety zones, created by statutory instrument (S.I.) to protect them. These safety zones are 500m radius from a central

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48 For more information about the proposal of Brazil please see: Routeing Of Ships, Ship Reporting And Related Matters, Proposal for the establishment of an Area to be Avoided and modifications to the breadth of the Safety Zones around Oil Rigs located off the Brazilian Coast – Campos Basin Submitted by Brazil, available at: [http://www.sjofartsverket.se/pages/10882/53-3.pdf](http://www.sjofartsverket.se/pages/10882/53-3.pdf)


50 Harel, supra note 17, P.152
point and they were designed to create an area where there could be enough sea room between ships and installations in order for accidents to be prevented. It is worth mentioning that safety zones are not considered in any way territorial sea so they do not possess the equivalent rights. The right to establish safety zones in accordance with the international law is enshrined in the article 260 of LOSC.

The purpose of safety zones is:

- The protections of navigation;
- The protection of the installation;
- And the protection of the people working on the installation.

Safety zones must be respected by all other states and foreign vessels must not enter this area and it is clear from LOSC that they cannot be extended. A ship entering the safety zone is in violation of this provision of the LOSC and cannot invoke the freedom of navigation as a justification for this infraction. In fact, the obligation of vessels to respect the safety zones is confirmed by a number of considerations:

1. The paragraph 6 of the article 6 of the LOSC is referred to the respecting of the safety zone itself and not only the measures taken inside the zone.
2. In the same paragraph it is mentioned that ships have to comply with generally accepted standards regarding navigation in the vicinity of safety zones something that implies that there is a differentiation between safety zones and the area near the zones.
3. According to the relative I.M.O. Resolution it is explicitly mentioned that governments have to “take all necessary steps to ensure that, unless specifically authorized, ships flying their flags do not enter or pass through duly established safety zones”

Violations of these zones are, however, a problem. In the North Sea the number of violations in the period 1975-83 has averaged approximately 65 per year. About 84

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52 See Catherine Redgwell, International and European Regulation of the energy sector. Para. 2.101
53 See Papastavridis Supra note [.]
percent of these violations were committed by foreign or unknown vessels, which indicates that international law is of special relevance.\textsuperscript{55}

The LOSC does not establish a general foundation for vessels to enter the said area nor for an unauthorized access. Safety Zones around offshore installations could be entered only under very specific circumstances which are describing in the article 1(e) of the IMO resolution A.671 about Safety Zones and Safety of Navigation around Offshore Installations and Structures,\textsuperscript{56} which states that the prohibition on vessels from entering the safety zone should not apply:

i. to those involved in rendering services related to the operation of the offshore installation or structure;

ii. when in distress;

iii. for the purpose of saving or attempting to save life or property;

iv. in case of \textit{force majeure}

An interesting approach to this is the adoption of the above article in the UK legislation which also sets the conditions for an authorized entering the safety zone, adopting the adequate provisions of LOSC, as follows:\textsuperscript{57}

(i) With the consent of the Secretary of State, or a person authorised by him;

(ii) To lay, test, inspect, repair, alter, renew or remove a submarine cable or pipe-line;

(iii) To provide services for an installation within the zone or to transport persons to or from it, or under authorization of a government department to inspect it;

(iv) For a general lighthouse authority vessel to perform duties relating to the safety of navigation;

(v) To save life or property, owing to stress of weather or when in distress.

\textsuperscript{55} Note by the IMO Secretariat MSC 50/25/5, 19 October 1984. The numbers were about the same in 1984 and 1985, cf. IMO NAV 31/10/2 and NAV 32/13

\textsuperscript{56} Safety zones and Safety of Navigation around offshore installations and structures, adopted on 19 October 1989, agenda item 10

An important point, according to article 60 of LOSC is that safety zones must be marked by any means necessary, so that they can be easily recognizable from the vessels

**Jurisdiction**

ExCLUSIVE JURISDICTION – PRESCRIPTIVE JURISDICTION – ENFORCEMENT JURISDICTION

Despite the fact that the physical form of offshore structures constitutes not an island so states could not theoretically exercise sovereignty on them. In the paragraph 1 (b)(i) article 56 of LOSC it is mentioned that the coastal state has jurisdiction “as provided for in the relevant provisions of this Convention with regard to the establishment and use of artificial islands, installations and structures. From the paragraph 1 and 2 of article 60 as mentioned before the coastal state has not only “the exclusive right to construct and to authorize and regulate the construction, operation and use” of installations, but also “exclusive jurisdiction” over such installations. As far as the installations at high seas are concerned, although it is not clearly mentioned, by the language of the article 87 “freedom to construct artificial islands and other installations permitted under international law, subject to Part VI” and also by the language of article 109 which refers to a registration system. In particular the said article provides that one of the States with jurisdiction over an individual engaged in unauthorized broadcasting would be "the State of registry of the installation," which implies that States may
maintain a registry of installations beyond national jurisdiction. Thus in any marine zone, as regards the offshore energy installation, the coastal state has exclusive jurisdiction. Exclusive Jurisdiction refers to the power of a court to adjudicate a case to the exclusion of all other courts. It is the sole forum for determination of a particular type of case. Exclusive jurisdiction is decided on the basis of the subject matter dealt with by a particular court. The meaning of exclusive jurisdiction includes of course the prescriptive jurisdiction and the enforcement one which will be analyzed further below.

The question that arises is whether the coastal state could also claim the exclusive jurisdiction over the safety zones around these installations. First of all, installations are expressly denied the status of islands and hence the safety zone do not constitute a territorial sea. Beyond the territorial sea, states can only exercise jurisdiction based on a permissive norm. In the LOSC the exclusive jurisdiction is offered in the article 60 and especially for the installations excluding the 500 meter safety zones. Some scholars believe that the exclusive jurisdiction of states in the safety zones must be maintained for “good reason” for the prevention of pollution in this area. This danger might look logical but cannot justify a permissive norm because according to the present author every state must show due regard to the marine pollution, obligation that can be found in many articles in LOSC. In conclusion, States as regards the offshore energy installations enjoy exclusive jurisdiction but as regards the safety zones around these installations have no exclusive jurisdiction.

Although states do not enjoy exclusive jurisdiction in the safety zone, they do have the right to take any “take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures”. The said provision in combination with the general obligation of all ships to respect those zone and the fact that safety zones do not exist ipso facto but they must be declared by the coastal state, further imply the existence of the prescriptive jurisdiction of states in this area. To begin

58 See Kaye supra note 23 P. 387-388
59 Exclusive Jurisdiction Law and Legal Definition, USLEGAL.COM, available at: https://definitions.uslegal.com/e/exclusive-jurisdiction/
61 T Dux, Specially Protected Areas in the Exclusive Economic Zone (EEZ) (Lit, Münster, 2011)
62 Article 60, paragraph 4 LOSC
with, the meaning prescriptive jurisdiction refers to the state legislature’s right to create, amend or repeal legislation. Thus, the coastal state can legislate for the safety of the offshore energy installation and the navigation in the area of the 500-meter safety zone. States, as regards the relative legislation usually choose to ban generally all ships from navigating in the safety zone, although this practice has encountered skepticism. The appropriateness or reasonableness of a comprehensive ban and in favor of a less intrusive measure, such as slow-steaming zones or exemptions for small vessels is frequently doubted. The present author believes that due to the limit breadth of the safety zone (500 meters) a general prohibition of navigation, even for the smallest vessels can be justified as an appropriate and reasonable measure. There are states that apply their criminal or their civil law also in the safety zones around their installations such as the UK and France but something like that could not be justified as appropriate or reasonable measures.

The language of the LOSC implies the right of the coastal state to impose and implement the measures and relative legislation in the safety zone. Taking into account that ships must respect the safety zones and the fact that measures may be imposed, it is widely accepted that the coastal state enjoys enforcement jurisdiction too in the area of the safety zone. The meaning of the enforcement jurisdiction constitutes the right to enforce this legislation through, for example, the police and public prosecutors, by investigating a crime and arresting a suspect. The enforcement jurisdiction of the coastal state is recognized and described also in the IMO resolutions A. 671(16). In the article 3, paragraph 3.1 of the Annex of the said resolutions is mentioned that in

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63 See Jurisdiction: Overview, Prescriptive and enforcement jurisdiction: territorial and extraterritorial application, public international law, available at: https://ruwanthikagunaratne.wordpress.com/2011/04/13/jurisdiction/
64 See Sebastian to Pesh, P. 526 supra note 60
65 Safety zones around US installations normally have exemptions for vessels under 100 feet in total length, see, e.g., the Boxer Platform safety zone, Code of Federal Regulations, Title 33, Chapter I, Subchapter N, § 147.801, available at: http://www.ecfr.gov/cgi-bin/text-idx?SID=2961df533a6e9c56e8a73fcb5c1c7e91&mc=true&node=pt33.2.147&rgn=div5#se33_2.147_1801
67 See Act No. 68-1181 of 30 December 1968 relating to the exploration of the Continental Shelf and to the exploitation of its natural resources of France
68 See jurisdiction overview, supra note 63
69 Safety zones and Safety of Navigation around offshore installations and structures,
case of infringements the state should “take action in accordance with international law”, implementing the relative laws and regulations set for the offshore energy installations. The measures must have the direct aim of ensuring the safety of navigation and the installation, focusing on the ending of the vessel’s presence in the safety zone. More specifically, according to the language of the relative provision of the IMO resolution, the coastal state must first inform the entering vessel for the infringement and ask it to leave the safety zone. If the entering vessel does not adjust with the request of the coastal state, then the coastal state could take the adequate action. Secondly, the measures implemented by the coastal state should be necessary, appropriate and always in accordance with the international law, something that can be managed by comparing the actual infringement and how it endangered the offshore installation with the measure provided in the relative regulation.

What happens if a vessel enters the safety zone?

In practice, breaching a safety zone will constitute a domestic criminal violation within most jurisdictions with an offshore industrial presence. As mentioned before the LOSC does not establish a general foundation for vessels to enter the safety zone. In summary, the relative state’s regulations are implemented. Although the boarding of a vessel can be an appropriate measure *prima facie*, it is normally disproportionate if undertaken for a minor offence such as an unintentional or single violation of a safety zone. Typical example of how states have incorporated in their domestic regulations the relevant provision as regards the offshore energy installations is the article 6 of the Merchant Shipping Notice No. M. 1290 which specifically states that “Entry into a safety zone by an unauthorized vessel makes the owner, master and others who have contributed to the offence liable on summary conviction to a fine not exceeding £2,000.

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70 See Tho Pesch, supra note 60, P. 528
71 Possibly ask the vessel to leave using visual and auditory means like the article 111 of LOSC
72 Although as mentioned above, applying the state’s criminal law in the safety zone area is not something that could be easily justified as appropriate measure.
74 See Tho Pesch, supra note 60 P. 528
75 See Merchant Shipping Notice No. 1290, supra note [.]
at the present time, and on conviction on indictment, to imprisonment for a term not exceeding 2 years, or to a fine or to both”, in which in the present author’s opinion is that it is possible that the penalty of imprisonment might be inappropriate in some cases of unauthorized vessels because they may enter by mistake.

**Air jurisdiction.**

First of all, the freedom of overflight is enshrined in the L.O.S.C. in many articles and other state cannot refuse aircrafts to fly above their E.E.Z. or refuse the right of transit passage. However, it is doubtful whether states can exercise jurisdiction on the airspace above the offshore energy installation and as well as above the safety zone. To begin with, installations do not possess the status of islands as a result there is no sovereignty over the airspace of such areas. On the one hand, the coastal state has the right to take appropriate measures to ensure the safety of the energy installation and thereby encompassing restrictions on the freedom of overflight might seem logical for the safety not only of navigation but also for people working on the installation. On the other hand the L.O.S.C., in the paragraph 5 and 6 of the article 60 explicitly refer to the general obligation of all ships to respect safety zones something like that, indicates that only the freedom of navigation can be restricted by the coastal state under the safety zone regime, but the freedom of overflight remains unconstrained. As a result, the basis for such restrictive states’ powers is unclear. For example, article 4 of French legislation No 68-1181 cites “Restrictions may be imposed on the overflight of installations and devices and safety zones to the extent necessary for the protection of the installations and devices and for the safety of aerial navigation.”

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76 See for the right of transit passage articles 38 and 39, for the right of overflight above E.E.Z., article 58 and for the right of overflight in the high seas article 87
77 See article 60 paragraph 8, LOSC
Even if the 500-meter safety zone is considered vertically so that to cover such area in airspace too, would not in reality affect most of the overflights, because aircrafts fly much higher than 500 meters. Such a restrictive regime could only be used only for airplanes flying in their immediate vicinity.\(^80\)

In conclusion, the article 60 of the L.O.S.C. sets restrictions in the freedom of high seas only as far as the freedom of navigation is concerned without encompassing the freedom of overflight. Therefore, restrictions of the right of overflight cannot be justified in the legal bases set in the article 60.

**Enforcement Jurisdiction beyond safety zone - the right of hot pursuit**

According to the article 111\(^81\), paragraph 2 of LOSC, states are offered with the right to impose their enforcement jurisdiction beyond the safety zone. More specifically, under certain circumstances the coastal state can pursue a foreign flag vessel in order to impose its relative national legislation responding to a peril for the installation occurred. It is about an exception to the principle of exclusive state jurisdiction (tho pesh 530)

Hot pursuit is considered the *under certain conditions* right of warships, military aircrafts and other duly authorized vessels or aircrafts of a coastal state to pursue on the high seas (and in the EEZ) a foreign flag vessel provided that they have good reason to believe that the ship has violated the laws and regulations of that state and the pursuit is without interruption the “right of warships, military aircrafts and other duly authorized vessels or aircrafts of a coastal State to pursue on the high seas (and in the EEZ) a foreign flagged vessel, provided that they have good reason to believe that the ship has violated the laws and regulations of that State and the pursuit is without interruption ("hot")\(^82\). The reason for the permission seems to be that pursuit under these circumstances is a continuation of an act of jurisdiction which has been begun, or which but for the accident of immediate escape would have been begun, within the territory itself and that it is necessary to permit it in order to enable the territorial

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\(^80\) See Sebastian tho Pesch, supra note 60

\(^81\) Applies the right of hot pursuit mutatis mutandis to violations of the law of the territorial state in the EEZ, or the Continental shelf, including safety zones around continental shelf installations.

\(^82\) Efthymios Papastavridis, Interception Of Vessels On The High Seas 50 Et Seq. (2013)
jurisdiction to be efficiently exercised. In its present form it has appeared in Anglo-American practice in the first half of the nineteenth century, but it was not until the Hague Codification Conference of 1930 that was sufficient evidence of general recognition by states. In the “I’m alone case” the Interim and Final Reports of Joint Commission 1933-1335 didn’t challenge the right of US to hot pursuit the Canadian ship, although the sinking of the ship was judged as an unlawful act. The right of hot pursuit first incorporated in the article 23 of the Convention on the high seas (1958). The most known about the right of hot pursuit as far as the offshore energy installation is the “Arctic Sunrise Dispute” which will be analyzed further below.

In summary the conditions for the lawful implementation of the hot pursuit right of the article 111 of LOSC are the following:

1. There must be a good reason to believe that the pursued vessel has violated the laws and regulations of the state, in this case those established by the state for the protection of the offshore energy installations. If a hot pursuit takes place but at the end it will be decided that there was no offence by the pursued ship, then the coastal state must repair the damage of the flag state.

2. The relative laws and regulations must have been violated inside the safety zone. There is no authorization to hot pursuit vessels for infringements or offends that took place in previous journeys of the vessel.

3. It can only be initiated immediately while the offending vessel is still in the safety zone. It is worth mentioning that it does not matter how much time the vessel stayed in the...

84 See James Crawford, Brownlie's Principles of Public International Law, 27 Sept. 2012, OUP Oxford P.310-311
85 On March 22nd, a United States coast guard vessel sunk the Canadian rum schooner, I'm Alone. The destruction of the ship was accomplished upon the high seas and at a very considerable distance from American territorial waters.
87 See paragraph 8 of aricle 111 LOS, Emmanouil Roukounas, Diethnes Dikaio (International Law), Volume 2, to kratos kai to edafos – To dikaio tis thalassas (the state and the territory – The law of the Sea), Second edition, Publication of Ant. N. Sakkoula, P. 169-170
88 Ibid
safety zone, it is enough that it entered it. For the hot pursuit to be started, it is enough also the existence in the safety zone of only small boats while the mother vessel remains outside the safety zone. The LOSC does not require the pursuing vessel or aircraft to be physical inside the safety zone too, however, for practical reasons, it would be reasonable if the pursuing means are close enough to the installation, so they can send the necessary signal (see condition 4) and also to start immediately the pursuit if needed.

4. It must commence with a visual or auditory signal to stop from a pursuing vessel or aircraft. This condition is required in order to exclude the case of first locating the vessel by a radar or other relative electrical mean and after that to be given them the order of exiting the safety zone, something that would provoke a large pause in the state’s reaction and would not justify the meaning of “hot”. It is also important to mention that the visual and auditory signal must come from the pursing vessel or aircraft and not from the installation itself as it does not possess such authorization from the relative article of LOSC.

5. The visual or auditory signal must be made while the offending vessel is physically in the safety zone. Due to the small breadth of the safety zones, the opportunity from the coastal state to react is limited.

6. The hot pursuit must be done only by vessels or aircrafts identified as “being on government service and authorized to that effect”.

7. The pursuit, once initiated must be continued without interruption (hot). The point in this provision is that the pursuit must not interrupted at all, even for a little time, otherwise it cannot be justified. Thus, it is not important whether it is carried out by a vessel or an aircraft or whether is continued be the same means that it started. It is acceptable for example to commence with a pursuing vessel, to continue with an aircraft and to finish again with a vessel.

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89 See Kaye, Supra note 23
90 See Paragraph 4 of the article 111 LOSC and also see Roukounas, supra note 87
92 See Roukounas Ibid
93 See paragraph 5 of article 111 LOSC
94 See Roukounas, supra note 87, Specifically, this condition was the only one for the above that was not met in the Arctic Sunrise cas, which will be analyzed further below.
8. The hot pursuit can be continued up until the pursued vessel enters the territorial sea of another vessel.\(^{95}\)

The balance of rights

The truth is that balance between coastal states’ right of exploitation of natural resources and the freedom of navigation is very “delicate”, yet articles 56 and 58 create this balance between rights of the coastal states and of others. Some may claim that the provisions of LOSC as far as the right of the coastal state to establish installations in its Continental Shelf and its E.E.Z. and other state’s rights are concerned, title the balance in the direction of the costal state. However, that might not correspond to the reality because article 58 refers to the obligation of other states to:\(^{96}\)

1. Comply only with those laws and regulations of the coastal state which are adopted in “accordance with” the relevant provisions of the Convention
2. Even if such regulations reflect rules of international law other than those embodied in the Convention, the third states are obliged to comply only as far as those rules are not incompatible with Part V (the part related to E.E.Z.).

The point in the mentioned above rights and freedoms can be found in the maintenance of this “delicate” balance between states’ rights. This balance of rights aims at an equivalent and reasonable use of the freedoms offered in the E.E.Z. and the high seas in the L.O.S.C. This general principal that is launched is “reflected by reciprocal basic

\(^{95}\) See paragraph 3 of article 111 LOSC
obligations of the coastal and third state to have due regard to their respective rights and duties and the parallel obligations of the third state to have due regard to the interests of other states exercising communications freedoms”.

In the Matter of the Bay of Bengal Maritime Boundary Arbitration between the People’s Republic of Bangladesh and the Republic of China the Arbitral Tribunal followed the same reasoning and considered that the letter of the Convention provides the necessary tool for counterbalance every conflicting right.

In Particular, the Arbitral Tribunal stated “The establishment of a maritime area in which the States concerned have shared rights is not unknown under the Convention. The Convention is replete with provisions that recognize to a greater or lesser degree the rights of one State within the maritime zones of another. Within the provisions of the Convention relating to the exclusive economic zone and continental shelf, articles 56, 58, 78, and 79 all call for States to exercise their rights and perform their duties with due regard to the rights and duties of other States”.

State’s practice

The International community has concluded to this breadth because states couldn’t agree differently because they feared that giving coastal stats discretion in determining the breadth of safety zones would lead to excessive limitations on navigation and disturb the “Delicate balance” between exploitation of natural resources and the freedom of navigation. This eventually led to the adoption of the 500-meter rule.

The 500-meter-zones are considered by the majority not suitable enough to secure the complete protection of the offshore installation. It is true that when the LOSC was drafted and agreed by all the participating states, all the dangers that may threaten the safety of the offshores installations and peace in the sea in the future undoubtedly couldn’t have been foreseen. The 500-meter-zones indeed offer a very limited

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97 See article 56 paragraph 2 and article 58 paragraph 3 of LOSC.
98 See Abdul Ghafr Hamid, supra note, P777. In the communication freedoms, freedom of navigation is included. See also article 87 paragraph 2 of LOSC
99 See Maria Gavouneli, P. 62, Supra note 95
101 See D. P. O’ Conell, The International Law of the Sea, P. 503 (I.A. Shearer ed., 1982) to Assaf Harel, supra note 17
protection, taking into account that a vessel approaching an offshore installation, at a speed of 25 Knots, would pass from the outer edge of the zone to the installation in just 39 seconds. The main arguments that are used to prove the insufficiency of the 500-meters-zone are summarized as follows:

- First of all, if a vessel need such little time to approach the offshore installation (only 39 seconds), the people working on the installation probably would not even realize the upcoming danger before it is too late.

- Secondly, even if people onboard notice the upcoming danger on time, the breadth is so small that they would not have time to response in order to protect not only the offshore installation but also themselves by calling for example assistance from either the state’s military or the enforcement forces.

- At the same time, even if an attempting attack gets notices on time and people on board manage to act calling for help the competent authorities, either it is the military or the enforcement forces, the distance is so small that probably their mobilization wouldn’t have any effect. According to Kaye, if terrorists were intending for example “to ram an installation with a large vessel, it is doubtful that any action on the platform, including firing at or into the vessel could prevent a collision, to say nothing of the legality of opening fire on the vessel before the intention to ram was clear and unequivocal”.

- Last but not least, nowadays the technological development is huge, there are weapons with a wide range far larger than 500 meters because there are means of attacking from large distances.

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102 A speed of 25 Knots is approximately 12.9 meters per second. A ship travelling at this speed would cover 500 meters in 38.85 seconds.

It is supported that larger safety zones would provide states the opportunity to examine better the potential threats before they approach so close to the offshore installation, and also if a potential threat prove to be danger and important, states would have more time and would be more easily ready to confront it. Something like that would be particularly helpful in the areas with maritime traffic, where it is more difficult for the potential terrorist vessels to be identified. At the same time, better protection against wide range weapons is given while undoubtedly, the personnel onboard and the installation itself get better protection.

On the other hand, there are no few those who support the appropriateness of the existing rule believing that no matter how large safety zones are they will never be large enough to protect offshore installations from long range weapons104, because as mentioned before nowadays the technological development is huge and there are ways of attacking from really wide distances At the same time, an expansion of safety zones beyond the already existing 500-meter-rule, would probably “promote” these kind of

104 See Harel, supra note 17. P. 158
attacks. The most significant argument of those who consider the existing safety zones enough is that a potential expansion may lead to a serious limitation of the freedom of navigation. Foreign vessels not only would be forbidden to approach larger areas, which is a serious limitation on the above right, but also as regards vessels with cargo, they will have to follow different navigational routes, mainly larger, something that would increase shipping industry costs.

State’s practice in relation to safety zone is largely consistent with the LOSC. Despite the fact that the breadth of safety zones as exists today is doubted for its efficiency, there are many states that have widely accept the 500 meter rule and have enhanced it in their national legislation, such as Belgium, Bulgaria, Denmark, France, the Russian Federation, Sweden, the United Kingdom, Malta, Poland and Venezuela.\(^{105}\)

According to Nikos Papadakis,\(^{106}\) Sweden for example with the article 6 of the Swedish Act No. 314 of 3 June 1966 (the Continental Shelf Act) concerning the continental Shelf, provides for the establishment of 500 meters safety zones around installations. The same article also provides that unless otherwise provided in that act or elsewhere, ships shall not be permitted to sail into the safety zones without the consent of the owner of the Installation. Article 10 lays down further that Swedish law shall apply on installations or safety zones established outside Swedish territorial limits. In this connection, the installations and safety zones shall be deemed to be situated within the nearest part of Swedish territorial sea. While, in section 4, paragraph 1 of the Maltese Continental Shelf Act 1966 as amended in the Continental Shelf Act (Act No. XXVIII of 2014), allows the prime minister to establish safety zones around any such artificial islands, installations, structures or devices in, on, or above the continental shelf, for the purpose of protection and security, without specifying in this section the maximum


\(^{106}\) See Nikos Papadakis, The International Regime of Artificial Islands, Brill Archive, 1977, P. 783.
breadth of such zones but it is worth mentioning that in section 6 of this Act, the application of the domestic legislation is provided (shall be treated as if they were situated in Malta) in a zone of 500 meters around the installation or the artificial island etc.

United Kingdom is also a state that has fully complied with the International Law as regards the establishment of safety zones for the protection of its offshore installations. U.K. in 1987 set into force the Petroleum Act in which all oil and gas installations which project above the sea surface at any state of the tide are automatically protected by a 500 meter safety zone. It is considered an offence to enter except under the special circumstances, with penalties imposed. Not only that, but also the U.K. government has issued notices informing people about the obligation of establishing 500 meter safety zones and the obligation of respecting these zones, otherwise specific penalties are imposed.

On the other hand, there are states that doubt the 500-meter-rule of the International Law and haven’t enhanced this rule in their domestic legislation. Norway, imposes limitations on fishing and anchoring in areas outside a 500-meter radius of platforms. Another important example is considered the state of India that according to media reports in order to strengthen the security of India’s offshore oil and gas installations and prevent sabotage and terrorist attacks on them, decided in 2009 to extend the safety zone around the installations to 5 nautical miles (or 8 km) from the existing 500 meters.

Warning zones

Another practice that is usually followed by states is the establishment of the called warning areas. In particular, states have come to the idea of these zones in which at first sight the freedom of navigation cannot be suspended because such zone have only an

107 Harel on the other hand supports that Malta is a state which has no enhanced fully the 500-meter-rule. See Harel, supra note 17 P. 153
109 See Section 23, of the Petroleum Act of United Kingdom (1987),
110 See Merchant Shipping Notice No. M.1290
111 Norway has prohibited fishing and anchoring outside its safety zone in certain parts of its Ekofisk and Stafjord fiels. See Ulfstein, supra note 37, at 233,246 to Harel, supra note 17, P. 153
112 See Anupama Airy, Govt to secure offshore oil and gas installations, HINDUSTAN TIMES, Nov. 16, 2009, available at http://www.hindustantimes.com/business/govt-to-secure-offshore-oil-and-gas-installations/story-gDLSFgT3qJTt96oMU6spK.html
informative use in other words they constitute a “Caution Note”. Such zone is not clearly forbidden by the International Law for its informative character. Despite this role, warning zones maybe indirectly try to “mess” with the freedom of navigation, taking into account that other vessels have to ask permission to enter this zone because it can be considered too dangerous for the protection of navigation, the installation and the people working on the installation. In the Arctic Sunrise Case, which will be analyzed below, the Netherlands doubted the right of the Russian Federation to impose a 3 nautical mile warning zone around the permissible 500 meter safety zone, although it was clearly advised so by the Russian Cost Guard vessel “Ladoga”. But the Court decided differently and concluded that warning zones do not bear a mandatory character and offer only recommendations, in other words they constitute a zone in which states cannot impose rules neither have jurisdiction. It is possible in these 3 nautical miles to exist dangers for the vessels and the installation and that is why it would be better if vessels ask for permission to enter these zones. It would certainly be preferable if the IMO adopted recommendations expanding their breadth, but until it does so, warning zones such as the one of Russia’s Federation seem the best solution.

Other Legal Bases for protecting Offshore Platforms

Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located (SUA Protocol)

The SUA protocol is a protocol on the 1988 Convention on the Suppression of Unlawful Acts against the Safety of Maritime Navigation. It was signed in 2005 and up until today, according to IMO, has been ratified by 155 members. The protocol, following SUA Convention, is applied mutatis mutandis to unlawful acts against fixed platforms and requires state parties to make certain offences punishable under domestic law and to prosecute offenders within the state’s territory or extradite them to another state that has jurisdiction. In other words calls upon state to impose its prescriptive and enforcement jurisdiction, when needed, taking all necessary measures to deal with specific offences beyond safety zones in order to protect its offshore installation.

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113 See Arctic Sunrise case [Merits] para. 207. This was modified on 24 May 2014 by Notice to Mariners No. 21/2014 to read: “Vessels are not recommended to enter a safety zone of the offshore ice-resistant platform (OIRP) (69° 15'56.9” N 57° 17'17.3”E) without the platform operator permission.”

114 Efthymios D. Papastavridis, supra note 15 P. 8

115 Harel, supra note
Although in contrast with the SUA Convention, an important point is not provided in the said protocol. The right of coastal state to board in vessel that has been engaged in an unlawful action described in the Protocol is not granted. At the same time, it is noteworthy that the protocol, not only does not describe specific measures for the suspension of any unlawful acts, providing only generally the right of each state party to “take all necessary measures as may be necessary to establish its jurisdiction over the offences set in articles”,\(^{116}\) but also promotes the coastal state only after the unlawful act takes place, implementing its jurisdiction, without provisions for the prevention of any unlawful act.

**The Right of Self-Defense**

According to article 51 of UN Charter Treaty, states have the inherent right to respond to an armed attack against them. The right of self-defense allows a state to take defensive measures and use violence in order to maintain peace and security. In other words, the doctrine of self-defense justifies the action against other states under special circumstances as a permissible infringement of the general prohibition on the use of force between states.\(^{117}\) At the same time, the 1994 San Remo Manual on International Law Applicable to Armed Conflicts at Sea (Manual), in paragraphs 3 to 6 recognizes the same right of states and set the conditions for the use of force in self-defense at sea\(^{118}\), including against offshore installations. Such conditions are:

- the existence of a prior armed attack
- the necessity of the response
- the proportionality of the response

Originally such right applied only to armed attacks by states, but the last decades, has evolved and can apply to armed attacks by non-state actors as well.\(^{119}\) It is true that the

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\(^{116}\) Article 3 of the SUA Protocol  
\(^{117}\) See article 2, paragraph 4 of UN Charter Treaty  
\(^{118}\) See 1994 San Remo Manual on International Law Applicable to Armed Conflicts at Sea (Manual), available at: [https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/385ec082b509e76c41256739003e636d/7694fe2016f347e1c125641f002da9ce](https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/385ec082b509e76c41256739003e636d/7694fe2016f347e1c125641f002da9ce)  
\(^{119}\) See W. Michael Reisman, International Legal Responses to Terrorism, Yale Law School, (1999), available at: [http://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=2029&context=fss_papers](http://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=2029&context=fss_papers)
right of article 51 of the UN Charter Treaty links the right of self-defense with the subjects/members that could use this right and not with the attackers who correctly can be anyone, state vessel or not. As a result a state could use this right as a base to set restrictions to the right of navigation of other vessels near its offshore installation in order to protect it from dangers such as terrorist attacks (non-state actor). Another controversial matter is considered whether the attack that activates the right of self-defense must be armed. According to International Law, a non-armed attack does not justifies the use of violence set in the base of self-defense\textsuperscript{120}, it requires only armed attack. It is the condition \textit{sine qua non} required for the exercise of the right. In a case that there is no armed attack then the offended state can use non-violent counter measures equivalent to the right of self-defense.\textsuperscript{121} The ICJ in the Gabcikovo – Nagyramos case\textsuperscript{122} set the conditions for the lawful use of counter measures in which the use of armed violence is prohibited:

1. previous international wrongful act of another State and must be directed against that State;
2. the injured State must have called upon the State committing the wrongful act to discontinue its wrongful conduct or to make reparation for it;
3. proportionality;
4. non- permanent character of the counter measures.

On the other hand according to Dr. Tsagourias\textsuperscript{123} nowadays not so many states keep supporting this theory, such as United States of America, so they believe that in order for the right of using violence in the base of self-defense or in the base of counter measures, it doesn’t only have to be an armed attack. It is considered that if states have not the right to respond violently also in non-armed attacks then do not have the right to respond in every attack. International Community might be more realistic as far as the use of violence from states under certain circumstances is concerned.

\textsuperscript{120} See Nicaragua vs United States of America
\textsuperscript{121} In accordance with the opinion of Dr. Antonopoulos, International Law Conference, Υπάρχει δικαίωμα άμυνας κατά χρήσης βίας που δεν συνιστά ένοπλη επίθεση; Η Διευθέτηση Διεθνών Διαφορών στη Διεθνή Κοινότητα, Ετήσιο Συνέδριο Ελληνικής Εταιρείας Διεθνούς Δικαίου Και Διεθνών Σχέσεων, Αθήνα, 16 - 18 Δεκεμβρίου 2016
\textsuperscript{123} Νικόλαος Τσαγκουριάς, Νόμιμη άμυνα κατά μη κρατικών οντοτήτων και το δόγμα «απρόθυμος ή μη ικανός», International Law Conference, supra note 120
It is controversial though, whether International Law permits anticipatory self-defense. Two schools of thought exist regarding anticipatory self-defense in response to imminent armed attack. The restrictive school argues for a narrow interpretation of the UN Charter excluding anticipatory self-defense and assert that there is no right of self-defense absent an armed attack. Absent an armed attack, a state has no right of self-defense and can meet preparations for attack only by preparations to resist. Four basic arguments in favor of anticipatory self-defense have been advanced. First, if an attack is being mounted, then it can be said to have begun and it is not necessary to wait for it to be completed or for the results to occur. Second, article 51 of the UN Charter does not restrict the inherent right of self-defense as contained in customary international law. Third, nuclear war and other weapons of modern technology make it impossible to wait for the first strike. Fourth, and finally, a narrow reading of article 51 will only benefit aggressors.

Summarizing, there are difficulties in the justification of self-defense mainly because:

1. Such measures need to have only a temporary effect. Article 51 of UN Charter points out that these measures must last as long “as it deems necessary in order to maintain or restore international peace and security.”
2. They are applied only to a limited area
3. Such measures must be fully proved and justified as essential and of course proportionate. In the Case concerning Oil Platforms (Islamic Republic of Iran v. United States of America) when several warships of the United States of America’s navy destroyed oil platforms owned and operated for commercial purposes by the National Iranian Oil Company on 19 October 1987 and 18 April 1988, the International Court of Justice did not deny that Iran had the right to take defensive measures to protect its offshore installations. Also, in the known Nicaragua case, the ICJ recognized that actions by insurgents could, in certain circumstances, provide a right to respond with

125 See Erickson supra note 123, P. 116
the use of force.\textsuperscript{127} Also at the same case the attacks against the energy installations and the ports were a disproportionate response to the aid and assistance of rebels.

4. It is difficult to identify whether a commercial vessel flying a state’s flag is responsible for the actions of individuals on board. According to Kaye, “the difficulty stems from whether terrorism has a domestic or international legal characterization, as the defensive response is directed towards non-State actors. If it is viewed as an offence against the domestic law of the coastal State, then there is no right to pursue ships without a jurisdictional basis to justify boarding the fleeing vessel. If it is international, then a right of self-defense may provide a basis under the law of naval warfare to intercept and board the vessel.”\textsuperscript{128}

In conclusion, as regards the above the more limited those measures are in space and time and the more imminent the threat they are aimed to address, the better the coastal state’s chances of justifying those measures under the self-defense doctrine as regards the safety of offshore energy installations.


\textsuperscript{128} See Kaye, supra note 23 P. 414
Necessity

The doctrine of necessity is based on article 25 of the International Law Commission’s Draft Articles on Responsibility of States for Internationally Wrongful Acts,¹²⁹ and can justify an immediate respond to protect state’s interests. According to this article for a state’s act to be considered as necessity, two criteria must be provided.

a) The act was the only mean of safeguarding an essential interest of the state against a grave and imminent peril;

b) The act did not seriously impair an essential interest of the state towards which the obligation existed.

In the known Gabikovo– Nagyramos Project Case¹³⁰ that was about a project undertaken by Hungary and Czechoslovakia (and later Slovakia) to develop a system of dams and locks on the Danube River to generate electricity, improve navigation, and protect against flooding. Twelve years into the vast project, which had been consummated by a treaty ratified by the respective States, Hungary first suspended and then abandoned its treaty obligations, claiming that the project posed grave risks to the environment in the region and to the water supply of Budapest. Czechoslovakia brought suit before the International Court of Justice to seek redress. In justification of its breach of the treaty terms, Hungary largely relied on the existence of a state of ecological necessity.¹³¹

The ICJ in this case set the criteria for states’ actions to be justified as necessity which cumulatively are:

a) The existence of an essential interest of the state that invoke the doctrine of necessity;

b) This state’s essential interest must be in an immense and grave peril;

c) The state’s act, that is invoked as necessity, must be the only mean of safeguarding the mentioned essential interest;


¹³⁰ See ICJ case concerning the Gabčíkovo – Nagyramos Project

d) The state’s act must not violate other states’ essential interest;

e) The state that invoke the doctrine of necessity must not have contributed to the creation of this situation.

As regards the energy installations at sea, states can respond to immense and grave perils protecting their offshores energy installations. In particular, measures to interdict terrorists immediately before they attacked an installation might well be a valid use of the doctrine. This could be relied on the fact that the consequences of an imminent terrorist attack would be grave with possible loss of life and significant environmental harm. On the other hand, the doctrine of necessity cannot easily be justified after the attack has taken place because the grave and imminent peril that had to be avoided, have already occurred. Environmental protection is a base that can be used as a justification for further states’ acts in the necessity doctrine. In the incident of TORREY CANYON in which the supertanker TORREY CANYON had run aground on rocks between Land's End and the Scilly Isles and was leaking its cargo of oil into the sea, the British Government gave orders for TORREY CANYON to be destroyed by aerial bombardment in the hope that all the oil still remaining on board would be burnt off. The above bombing took place in order to prevent further environmental damage, and other states did not argue the necessity of this act.

In conclusion, as far as the energy installation at sea and the doctrine of necessity are concerned, acts by states aiming to protect them the installations can be justified mainly only if the attack or the damage has not occurred yet. Acts after the attack or the damage cannot easily be justified except for those act aiming to prevent further damage especially, environmental damage.

Environmental Protection

Article 221 of LOSC states that “nothing in this part shall prejudice the right of states, pursuant to international law, both customary and conventional to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to

132 See Kaye, supra note 23, P. 417
protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty which may reasonably be expected to result in major harmful consequences”. The principle in this provision was first give formal in the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties in 1969\textsuperscript{135}, adopted as part of the response of IMO to the Torrey Canyon disaster. According to this principle, it is possible to minimize the jurisdictional limitations around installations, if an attack on an installation is intended to cause environmental harm. The article 208 of LOSC states that the coastal state shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to the their jurisdiction, pursuant to article 60 and 80. This potential would allow coastal state to implement its enforcement jurisdiction beyond safety zones over actions which would set in danger the offshore installation causing serious environmental harm. As far as the environmental jurisdiction is concerned, there are two basic arguments about the rights granted in this article. First by the wording of this article, it understandable that LOSC considers only vessels as a source of pollution and not the installation itself and secondly, the right of coastal state to board to a third flag vessel is not provided. As result, a case where terrorists attack an installation and flee, is not covered by this article and the rights provided thereof. The Intervention Convention, on the other hand, gives states the ability to respond to an imminent disaster where would lack jurisdiction. Specifically, The Intervention Convention affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following upon a maritime casualty.

According to Harel, an argument can be made outside the Law of the Sea Convention based on “environmental necessity”. This is the notion that a coastal state should permit to undertake action to protect itself from imminent pollution and significant environmental harm. However the doctrine of environmental necessity need to be

\textsuperscript{135} For more information see http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-relating-to-intervention-on-the-high-seas-in-cases-of-oil-pollution-casualties.aspx
limited to responses to environmental threats, so it is explored below in the context of terrorist scenario.136

The Law of Naval Warfare and Energy Installations at Sea

“Naval warfare” is the term used to denote “the tactics of military operations conducted on, under, or over the sea”.137 The key principles of the law of war on land are applicable to war at sea, but there are also certain singular features that necessitate a specific set of rules.138

Another exception of the General Prohibition of the use of force in International Law is found in the San Remo Manual mentioned above, which in 1994 constituted a fundamental change in the approach taken to exclusion zones. The truth is that during armed conflicts energy installations at sea may face a serious threat of attacks something that would have terrible consequences on the state’s economy, society and of course in the environment. It is worth mentioning that according to article 40 of the Manual and the Article 52(2) of the 1977 Additional Protocol I,139 a military object is an object which:

• make an effective contribution to military action and
• whose partial or total destruction offers a clear military advantage.

That is why attacking offshore installations may be a very possible scenario considering that energy installations at sea shall be regarded as military objects.

On the other hand, it is worth noticing that as mentioned above the Manual is not referred to areas with serious commercial importance as a possible military target. This is why if energy installations can be considered as commercial in nature then they do not

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136 Kaye, supra note 23, P. 413
137 See Encyclopedia Britannica, online, available at: https://www.britannica.com/topic/naval-warfare
138 See Manual, Supra note 36
not constitute military targets. In the ICJ Oil Platforms case, energy installations were considered as commercial in nature.\textsuperscript{140}

The manual grants the right to establish exclusion zones in specific areas, such as areas near offshore energy installations and restrict navigation in these zones. However, these zones remain a very controversial issue even nowadays, because of the fact that limit the right of innocent passage and the freedom of high seas as well and that is why they are described as “an exceptional measure”. First of all, the Manual in the articles 105 to 108 is referred to the said zones and set the criteria for this exceptional measure.

In particular, it is pointed out that the establishment of such zone does not absolve states’ responsibilities on the International Humanitarian Law\textsuperscript{141} (article 106, paragraph a). Furthermore, it requires that a zone’s size, location and the measures imposed “shall not exceed what is strictly required by military necessity and the principles of proportionality”. At the same time, it is important to mention that the same article requires that the imposing belligerent state must give due regard to the rights of neutral states to lawful uses of the sea, publicly declare the commencement, duration, location, and extent of the zone, as well as the restrictions imposed, and provide “necessary safe passage” through the zone for neutral vessels if the geographical extent of the zone notably hinders free and safe access to the ports and coasts of neutral states.\textsuperscript{142}

These zones would reduce the amount of vessels that may enter the zone near the energy installation but undoubtedly, the presence of a vessel within the exclusion zone might support an inference that the vessel is hostile, but should not amount to a presumption of hostile status and cannot automatically lead to an attack.\textsuperscript{143} It is up to the state’s responsibility to take all necessary precaution measures to protect the installation and no to attack to the entered ship instead, the vessel should be instructed to leave the zone, or “subjected to extensive control measures”.\textsuperscript{144}

\textsuperscript{140} See ICJ oil platforms case paragraph 86, available ar: \url{http://www.icj-cij.org/files/case-related/90/090-20031106-JUD-01-00-EN.pdf}
\textsuperscript{141} The same body of law applies both inside and outside the zone.
\textsuperscript{142} See Harel Supra note 17
\textsuperscript{144} See Wolff Heintschel von Heinegg, The Law of Armed Conflict at Sea, in The Handobook of International Humanitarian Law, 463, 519–20 (Dieter Fleck ed., 3d ed. 2013) to Sandesh Sivakumaran
Furthermore, the article 108 of the Manual allows states engaged to armed conflicts to impose measures to control vessels and aircrafts in order to protect the area “in the immediate vicinity of naval operations.” Accordingly, a belligerent state can protect its offshore energy installations, when in danger in armed conflicts, by applying limits and restrictions in navigation and overflight in the area near them.

At the same time, in the Law of the Naval Warfare the Manual grants the right to states under very specific circumstances to visit search and capture a hostile vessel. As a result, if a vessel approaching the offshore energy installation is judged as hostile, the coastal right has the right to stop the hostile vessel, visit and search it and if it is considered dangerous, it can be captured.

It is important to mention though that according to the Manual (articles 34 to 37) during armed conflicts in the EEZ or the Continental Shelf of a neutral state, states must have due regard for the rights and duties of the coastal State, inter alia, for the exploration and exploitation of the economic resources, while respecting its offshore installations, structures and artificial islands. If the armed conflict takes place in the high seas the belligerent states have to act with due regard and respect the rights of neutral states in the area.

In conclusion, in a naval warfare states are granted with more rights in order to protect their offshore installations due to the importance of the installations in a socio-economic level.

- Neutral states’ energy installations at sea in case of armed conflicts are protected thanks to the paragraphs 35 and of the San Reno Manual.
- As regards the energy installations at sea of the belligerent states, it has to be examined first if this energy installation has commercial or military impact. In the case of commercial impact the warlike act cannot be justified.
Piracy

Piracy is subject to universal jurisdiction due to the fact that it is considered as “Hostes humani generis”, the relevant principle is stipulated in article 101 of LOSC which describes the definition of the term. According to the article 110, all warships are entitled to board and search vessels suspected of being engaged in such activity. The only requirement that the said article sets is that there must be “reasonable grounds” to suspect that the vessel has been engaged in the prescribed activity as well as that the boarding warship or the other “duly authorized state vessel” should abide by the modus operandi laid down in paragraph 2 and 3 of the article 110.

However, it is rather difficult to support any actions of the coastal state in order to protect the offshore installation, to the articles of LOSC about Piracy. First of all the definition of piracy considers as an act of piracy the relevant acts “against another ship or aircraft, or against persons or property on board such ship or aircraft”. This concept was also followed by the International Tribunal of the Law of the Sea in the Arctic Sunrise Case, in which it rejected immediately Russia Federation’s argument about piracy without examining further other criteria set in the definition of Piracy.

United Nations Security Council

For the completion of this present analysis of the sources for the protection of offshore energy installations, a mention must be made to the UN Security Council. Under the Charter of the United Nations, the Security Council has primary responsibility for the maintenance of international peace and security. It has 15 Members, and each Member has one vote. Under the UN Charter, all Member States are obligated to comply with Council decisions. According to the articles 39, 41 and 42, UN Security Council is granted with the right to decide what measures shall be taken to maintain or restore international peace and security. This decision comes by the adoption of Resolution after sessions. It would be possible for a state that faces a serious threat as regards its offshore energy installation, to ask from the Council the expansion of its

146 Available at: https://treaties.un.org/doc/publication/ctc/uncharter.pdf
jurisdiction beyond safety zones. In a critical thinking about the possible authorization from the UN Council, it’s worth mentioning that such authorization would hardly been granted taking into account other states’ navigational rights and other interests, and even if such authorization was agreed among states, it would take an amount of time, so probably it will not be efficient due to state’s imminent peril. 147

The Arctic Sunrise Dispute

After analyzing the legal bases, and jurisdictions that the coastal state enjoys as regards the right of exploration and exploitation of its natural resources and mainly the right to establish and protect the offshore installations, it would be very helpful to examine the case of the Arctic Sunrise which lead to a dispute between the Netherlands and Russian Federation.

The Arctic in recent years has been the scene of increased efforts to exploit offshore oil and gas resources. All Arctic coastal states148 have been granting oil companies licenses to operate in their Arctic waters. The Arctic Sunrise Dispute constitutes the most known dispute in relation to the protection of offshore energy installations. In summary, on 16 September 2013, the Russian Federation’s Coast Guard vessel Ladoga warned the crew of the Arctic Sunrise over the radio that an infringement of the provisions of the LOSC for the protection of the safety of shipping in the vicinity of the Prirazlomnaya would not be tolerated. On the following day, when the Arctic Sunrise changed course towards the Prirazlomnaya, the Ladoga once again communicated over the radio that regulations had to be complied with and that it was not permitted to enter the area with a radius of 3 nautical miles around the rig where there was a danger to shipping and the 500-meter safety zone around the rig. The next day, the Arctic Sunrise launched 5 boats near the perimeter of the 3- nautical-mile zone that moved in the direction of the Prirazlomnaya.

147 Harel, supra note P. 169, for more information see Thomas M. Brown, for the “Round and Top of Sovereignty”: Boarding Foreign Vessels at Sea on Trerror – Relates Intelligence Tips”, 59 NAVAL L. REV. 63, 91-93 (2010)
148 Canada, Denmark/Greenland, Norway, the Russian Federation and the United States
There is no indication the Arctic Sunrise itself at any time entered the safety zone around the rig, but it did enter the 3-nautical-mile zone at one point. A number of persons attempted to board the Prirazlomnaya from the boats launched by the Arctic Sunrise and two of them were arrested by the Russian Coast Guard. It has to be mentioned that the accounts of the arrest of the Arctic Sunrise differ. The Russian judgment indicates that, the master of the vessel was instructed to stop and allow an inspection by the Coast Guard in response to the actions against the Prirazlomnaya by the Arctic Sunrise and its boats over an hour after the last reported incident took place while Greenpeace states that there was a longer gap, something that according to International Law deprives the state’s right of hot pursuit. The Netherlands considered that the Russian Federation was not granted with the right to seize the Greenpeace vessel, exercising its enforcement jurisdiction, and such an act opposed to the freedom of navigation stated in LOSC, the Russian Federation stated that the acts of the Arctic Sunrise constituted acts of piracy and terrorism.

As far as the basic arguments and acts of Russian Federation are concerned, they can be summarized as follows:

1. Piracy: The tribunal made it clear that since the article 101 of LOSC refers to piracy only as an act against ships, piracy cannot be justifies as an act against installations. The Prirazlomnaya was not a ship, so, Tribunal need not consider the other elements required to show piracy within the meaning of Article 101, having rejected this argument.

2. Terrorism: The Tribunal considered that the Russian authorities were aware of the kind of protest action that it would be, i.e. non-violent, and in keeping with the kind of protest action Greenpeace had staged before as part of its campaign to “Save the Arctic”, taking into account also that the activists protested and then sailed away. Given this background, the Tribunal does not accept that there were reasonable grounds for the Russian authorities to consider that, on this particular occasion, the Arctic Sunrise intended to resort to terrorism to achieve its end so the argument of terrorism was rejected too.

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3. State’s right of explorations and exploitation (article 60): According to the Tribunal, due notice must be given in balancing other states’ rights, such as the right to protest, with the right of exploration and exploitation. There was no basis to conclude that the conduct of the Arctic Sunrise at the time of its boarding amounted to interference with Russia’s exercise of its sovereign rights for the exploration and exploitation of non-living resources of its continental shelf. On the contrary, at the time the act of seizing the vessel by Russia Federation took place, lead to the interference of the freedom of navigation of the Arctic Sunrise.

4. Environmental Protection: The Tribunal stated that the justification of the exercise of coastal state’s jurisdiction in relation to environmental protection by seizing the vessel, can be possible “where there is “clear objective evidence” for believing that such a violation has occurred, resulting in a discharge causing major damage or threat of major damage to the interests of the coastal State, the coastal State may institute proceedings and detain the vessel”. According to the Tribunal, there were no grounds for Russia to believe that the Arctic Sunrise had committed a violation of applicable international rules and standards for the prevention, reduction, and control of vessel-source pollution in Russia’s EEZ.

5. Hot pursuit: The Tribunal concluded that the pursuit was interrupted, and that therefore one of the necessary conditions set out in Article 111 for a lawful exercise of the right of hot pursuit was not met, the Tribunal concludes that the right of hot pursuit cannot serve as the legal basis for the boarding, seizure, and detention of the Arctic Sunrise despite the fact that originally there has been an infringement of the 500 meter safety zone and the fact that the protestors, ascended the installations something that would justify the exercise of coastal state’s enforcement jurisdiction.

The Russian Federation did not attend the arbitral proceedings questioning the jurisdiction of the Court due to the Declaration it made when ratifying the Convention in which it did not accept the jurisdiction of the Court provided in section 2 of part XV of the Convention.150

150 The exact declaration included: “The Russian Federation declares that, in accordance with article 298 of the United Nations Convention on the Law of the Sea, it does not accept the procedures, provided for in section 2 of Part XV of the Convention, entailing binding decisions
The Decision of the Arbitral Tribunal Constituted under Annex VII of LOSC justified the claims of Netherlands. Specifically, it stated that the Arbitral Tribunal recognizes its full jurisdiction over the case ordering the Russian Federation to compensate Netherlands for any damage and to return all objects belonging to the Arctic Sunrise and the persons on board the vessel.151

Environmental Concern

Global energy production has doubled since the early 1970s. According to the International Energy Agency, this is likely to increase by 2030 by more than one third, due to the world population growth and development in the major emerging economies of China and India.152 One third of the oil and one quarter of the natural gas exploration and exploitation are moving further and deeper offshore.153 States are bind to perform activities respecting the sensible marine ecosystem and the environment in general. It is a well-known fact that offshore energy activities can cause environmental pollution. Such pollution may be either operational or accidental.
Operational pollution may occur as a result of the energy activity, for example oil contained in drilling muds and cuttings, production water and displacement water, chemicals used in drillings or other offshore energy activities, oil form drainage systems on platforms, and the disposal for sewage, garbage and other wastes from installations.

Accidental pollution may be caused by blow out, rapture of a pipeline, a collision between a ship and an installation, an accident while a tanker is being loaded from an installation, or destruction of a suspended well-head or sub-sea completion system.

In addition, there are other significant risks associated with offshore oil and gas activities in the marine ecosystem, including the disturbance of fish stocks and marine mammals during seismic surveys, carbon dioxide and methane emissions through gas flaring and venting and pollution of the marine environment. ¹⁵⁴

The most characteristic incident which proves the environmental dangers of the offshore energy activities is the explosion of the Deepwater Horizon oil ring in the Gulf of Mexico in April 2014. It is considered the in the history of the petroleum industry. The US Government estimated the total discharge at 4.9 million barrels (210 million US gal; 780,000 m³). After several failed efforts to contain the flow, the well was declared

sealed on September 19, 2010. Reports in early 2012 indicated that the well site was still leaking.\textsuperscript{155} A similar incident is the Montara Oil Spill which occurred in the Timor Sea off the northern coast of Western Australia where according to the Guardian, since August 2009 around 403,000 litres of oil have been pumped into the Timor Sea.\textsuperscript{156} However, unfortunate incidents as those described above lead to the adoption of more efficient measures and the ratification of the international conventions in order to prevent these incidents from happening again. The Mediterranean (Madrid) Protocol for example was finally ratified and set into force in 2011, 17 years after its adoption. The competent article of LOSC (article 60), on the other hand, was not amended.

Decommissioning – Dumping

One of the main issues that is normal to be raised, is what happens when the offshore energy installation completes its purpose and is no longer in use. Undoubtedly, this issue concerns the safety of the installations in every aspect. It has to be settled taking into account that there are several types of installations that have been established and in no way must remain in the sea environment due to the dangers that may lurk concerning not only the environment but also the safety of navigation. So the need of their removal is great. According to the Bureau of Safety and Environmental Enforcement of the United States of America\textsuperscript{157} decommissioning is called the process of ending offshore oil and gas operations at an offshore platform and returning the ocean and seafloor to its pre-lease condition. This procedure might be more understandable if we have a closer look to the steps that are followed for it.

The International legal framework for decommissioning offshore energy facilities is usually more complex than the adequate framework on the decommissioning of


\textsuperscript{156} Toni O'Loughlin, Australian oil spill 'contaminating one of world's richest marine wildernesses, \url{www.theguardian.com}, October 2009, available at: https://www.theguardian.com/environment/2009/oct/23/australia-oil-spill

\textsuperscript{157} Established in 2011 in the United States, BSEE has been the lead federal agency charged with improving safety and ensuring environmental protection related to the offshore energy industry, primarily oil and natural gas, on the U.S. Outer Continental Shelf (OCS). For more information please visit: \url{https://www.bsee.gov}
onshore energy facilities because generally the onshore energy facilities are found in state’s territory so national legislation is applied.

Generally, according to Tim Martin, the relative legal framework includes the following:

- International Level
- Regional Level
- National Law
- Host Government Contract

First of all, it has to be pointed out that the legal framework for the offshore energy activities is not as advanced as the legal regimes relating to other source of marine pollution such as shipping. Over the past few decades, particularly since the Torrey Canyon oil spill disaster in 1967, the international community has made a concerted effort to establish an international legal regime for the prevention of vessel – source pollution.

**International Level**


The first major international convention concerning the removal of offshore installations is the 1958 United Nations Geneva Convention on the Continental Shelf. The critical provision is Article 5(5), which states that: “Any installations which are abandoned or disused must be entirely removed.” Article 5(5) provides an explicit obligation of total removal and does not allow its 57 contracting parties to do anything less than this requirement. This text has arguably been superseded by a different and more flexible approach in the LOSC discussed below. The Geneva Convention does not identify pipelines as part of the infrastructure to be removed. Therefore, one can argue that this Convention does not place a strict obligation to remove pipelines. This Convention only has a minimal reference to living marine resources (in Article 5(2)) and does not place an explicit requirement to protect the offshore environment.

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London Dumping Convention 1972

The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972", the "London Convention" for short, is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975 regulating dumping activities globally. There are currently 87 members and its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter.\textsuperscript{160} According to Claredon Press is regarded as one of the more successful conventions of the 1970s.\textsuperscript{161}

This Convention defines dumping as:

1) Any deliberate disposal at sea of wastes, or other matters from vessels, aircraft, platforms or other man-made structures at sea;

2) Any deliberate disposal at sea of vessels, aircraft, platforms or other manmade structures at sea.

The above definition of dumping in the London Dumping Convention corresponds to Article 1(5) of the LOSC.\textsuperscript{162}

It is applicable to all marine areas except the internal waters of a coastal state. It is now generally accepted that the abandonment of a structure (such as an offshore platform) at sea, either totally or partially, is considered dumping under the definition of the London Dumping Convention. This general understanding was confirmed by a new Protocol adopted by a special meeting of the contracting parties to the London Convention on 7 November 1996. Under this Protocol, which was set into force in 2006 with currently 45 members, the definition of ‘Dumping’ in the convention was updated and took a more restrictive approach toward Dumping so nowadays it is considered “Any abandonment or toppling at site of platforms or other man-made structures at sea,


\textsuperscript{161} PW Bimie And AE Boyle, International Law and the Environment, Claredon Press (1992) p 330 to Esmaeli see supra note 13

\textsuperscript{162} Indeed the definition of dumping in Article III of the London Convention, with some changes was adopted and included in Article 1(5) of the LOSC
for the purpose of deliberate disposal.” Therefore, the London Dumping Convention clearly covers the disposal of offshore platforms at sea, either totally or partially although does not stretch either into the operations of ships or the pollution arising from the exploitation of seabed minerals. If a toppled platform is converted to an artificial reef, it falls within the jurisdiction of the London Dumping Convention. Both the LDC and its 1996 Protocol apply certain conditions for the issuance of permits for dumping. However, the conditions required under the Protocol are more comprehensive than those of the LDC. For example, the conditions required under the LDC are related mainly to the physical nature of the material to be dumped and the dumping site. But it is for the coastal state to decide whether such an activity is contrary to the aims of the London Dumping Convention. The state is simply required to conduct a case assessment and then make a decision whether the activity is allowed or not.\textsuperscript{163}

The basic rules of the London Dumping Convention are provided in Article IV which contains a general prohibition against dumping of any "wastes or other matter in whatever form or condition except as otherwise specified”. The categories are as follows:

- Annex I (the "black list") prohibits the dumping of "highly hazardous” substances.
- Annex II (the "grey list") requires the issuance of a "special permit" (defined in Article III as a "permission granted specifically on application in advance") for the dumping of the listed substances.
- Annex III requires a "general permit" (defined in Article III as a "permission granted in advance") for the dumping of all other substances.

In 2007 and 2009 the above categories were amended by adding more substances. More specifically, In 2007 it was amended by permitting CCS – in particular, sub-seabed disposal of carbon dioxide and in 2009 by permitting export of CO2 for sub-seabed storage in another country, but this is yet to come into force\textsuperscript{164} However, the London Dumping Convention state that if a state considers it necessary, it may take extra measures as far as the dumping is concerned or even prohibit it entirely, while at the

\textsuperscript{163} Issuance Of Permits And Reporting, Article 9, London Dumping Convention and Protocol
same time derogation from this general prohibition is permitted in cases of force majeure or where danger to human life or a real threat to vessels exists.\(^\text{165}\)

It is worth mentioning that the Convention have achieved a very positive outcome so far by reducing the unregulated dumping and incineration activities that developed in the late 1960s and early 1970s, by developing guidelines for states to follow, by mitigating the impacts of increasing concentrations of carbon dioxide in the atmosphere and many more.\(^\text{166}\)

**1982 UN Law of the Sea Convention (LOSC)**

As far as dumping in the LOSC convention is concerned, the relevant paragraph for the decommissioning (article 60, paragraph 3), shows to be a little less strict than the adequate one of the Geneva Convention. This seems to happen because of the removal of the word “entirely” which permits partial removal. As regards the implementation of the Convention in comparison with the relevant provisions of the Geneva Convention, meaning which Convention excels in case of doubt, paragraph 1 of the article 311\(^\text{167}\) sets the LOSC provisions in priority by mentioning that states that have signed both of the above conventions are bind by the provision of the later. On the other hand, according to Tim Martin,\(^\text{168}\) the majority view is the textual approach, which accepts the language in paragraph 5 of the article 5 of the Geneva Convention as *clear, unequivocal and straightforward*, having only one meaning that is any offshore facility must be completely removed from the site at the end of its project life. As a result, this approach leads to the conclusion that if a state has ratified both Conventions, it is bind by the one with the stricter rules, which in our case is the provisions of the Geneva Convention.

However, in the present author’s opinion, a more teleological approach has to be followed for the interpretation of the controversial provisions of the LOSC. More specifically, the exact wording,\(^\text{169}\) has raised serious questions about the right or not of the coastal state not to decommission the entire offshore installation. The fact that in

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\(^{165}\) Article 8, London Dumping Convention

\(^{166}\) For more information about the london dumping convention visit: The London Convention And Protocol: Their Role And Contribution To Protection Of The Marine Environment

\(^{167}\) “This Convention shall prevail, as between States Parties, over the Geneva Conventions on the Law of the Sea of 29 April 1958”

\(^{168}\) See Tim Martin, supra note

\(^{169}\) See Appendix
the latter Convention, it was chosen no to include the specific wording “entirely”, while at the same time London Dumping Convention which provided the right of dumping had intervened, means that it was aimed to a more flexible interpretation of the Convention which allows states to remove partially the offshore installation. In conclusion, despite the fact that the majority believes that the controversial part is which Convention excels in case of doubt, the current author considers that there is no such doubt since the superiority of LOSC is provided by the article 311, but the actual doubt is provoked by the removal of the word “entirely” and the capability that might offer for partial removal, something that has to be approached by a teleological point of view as described above.

Furthermore, it is worth mentioning that LOSC does not provide decommissioning rules for cables and pipelines while at the same time it provides general principals on the prevention, reduction and control of marine pollution including the pollution caused by dumping. States should take all appropriate measures to enforce to enforce “laws and regulations adopted in accordance with this Convention and applicable international rules and standards established through competent international organizations or diplomatic conference for the prevention, reduction and control of pollution of the marine environment by dumping.”\textsuperscript{170}

I.M.O. Guidelines A.672

The international standards referred in the LOSC as regards the decommissioning of the abandoned offshore installations were further specialized in the “Guidelines and standards for the removal of offshore installations and structures on the continental shelf and in the exclusive economic zone”,\textsuperscript{171} issued in 1989. Their nature corresponds to Guidelines, meaning recommendations, and not to a legally binding text, constituting the first detailed rules on offshore removal and decommissioning. Generally, complete removal is suggested, apart from some cases in which partial removal is provided, approaching them in a case by case method.

According to the second article of the aforementioned I.M.O guidelines, when it comes for the case by case question about the complete or not removal of the installation after

\textsuperscript{170} Article 116 of LOSC
the completion of the project. The decision in each case separately is made following
these general guidelines.

(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 sea bed

While the general standards are summarized in article 3 as follows:

- Structures in less than 75 meters (water depth) and weighing less than 4,000 tonnes
  must be completely extracted.

- Installations located in primary navigational routes must be totally removed. No
  impeding or interference of the freedom of navigation must happen after the
  completion of the project

- Offshore facilities sited after the 1st of January 1998 in less than 100 meters and
  weighing less than 4,000 must be completely decommissioned.

- Partially and non-removed sited must allow clear water space of 55 meters and be
  maintained to protect other sea users.

- Host states must ensure that legal and financial decommissioning responsibilities
  are secured.

- All equipment emplaced after the 1st of January 1998 must be designed for
  complete decommissioning.

Reading the document unveils a sharp division between the spirit and the words of
Guidelines. The underlying complete removal philosophy is strongly impaired by the
use of ambiguous as opposed to positive phraseology. Any proof needed is available in
the extent to which partial decommissioning is permitted. This does not necessarily
mean that the document is badly drafted. It merely evidences an intention to confer maximum discretion on host producer states.\textsuperscript{172}

It is worth notice that the I.M.O. Guidelines make specific mention of artificial reefs, indicating that where living resources can be enhanced by the placement on the seabed of material from removed installations or structures (to create an artificial reef), such material should be located well away from customary traffic lanes, taking into account the I.M.O. Guidelines and other relevant standards for the maintenance of maritime safety.

**FACTS\textsuperscript{173}**

- As of July 1, 2015, 470 platforms had been converted to permanent artificial reefs in the Gulf of Mexico.
- A typical eight-leg structure provides a home for 12,000 to 14,000 fish, according to a study by the Coastal Marine Institute.
- A typical four-leg structure provides two to three acres of habitat for hundreds of marine species.

**Convention on the Biological Diversity**

The Convention on Biological Diversity entered into force on 29 December 1993 and up until today counts 199 members. It constitutes one of the most important conventions concerning the conservation of biological resources, the protection of ecosystems and the obligation of states to adopt and implement the principal of sustainability in the use of biological resources both to the onshore and offshore environment. In the article 8,\textsuperscript{174} it is referred that contracting parties should establish a system of protection areas, also to take all necessary measures to conserve biological diversity and promote the protection of ecosystems, natural habitats and the maintenance of viable populations of


\textsuperscript{173} Rigs to Reefs, Bureau of Safety and Environmental Enforcement, available at: https://www.bsee.gov/what-we-do/environmental-focuses/rigs-to-reefs

species in natural surroundings. An important point and of the above article is that all parties must rehabilitate and restore degrades ecosystems and to promote the recovery of threatened species, combined with the article 4 which states that each state is responsible for process and activities regardless of where their effects occur, namely in areas under national jurisdiction, beyond national jurisdiction or in areas under the jurisdiction of another state, provisions which in the case of offshore energy activities, require all states to perform all necessary actions in order for the marine environment to be recovered after the completion of the activities while being international responsible for any environmental damage may occurred by these activities. The CBD has accepted criticism, since its adoption. One of the main reason is the description of general binding obligations for states and the lack of the description of specific measures that have to be adopted so that for the environmental protection to be promoted and achieved.\textsuperscript{175}

International Convention for the Prevention of Pollution from Ships (MARPOL)

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. MARPOL Convention was adopted in 1973 and its Protocol in 1978 and has been amended many times throughout the years. It covers technical aspects to prevent and reduce pollution from ships. Despite the fact MARPOL Conventions is applied in ships, it contains provisions on the discharge of garbage from fixed or floating platforms, special requirements for drilling rigs and other platforms and other relative provisions.\textsuperscript{176} MARPOL Convention is also set as a legal instrument related to offshore energy activities in the Arctic Offshore Oil and Gas Guidelines issued by the Arctic Council in 2009.\textsuperscript{177}

\textsuperscript{175} Rosemary Rayfuse, Research Handbook on International Marine Environmental Law, Edward Elgar Publishing, 2015, P. 194
\textsuperscript{176} MARPOL - International Convention for the Prevention of Pollution from Ships, available at:\url{http://www.mar.ist.utl.pt/mventura/Projecto-Navios-I/IMO-Conventions%20%28copies%29/MARPOL.pdf}
Regional Level

The Regional approach among states provide mainly multinational cooperation for the preservation of the marine environment and the protection of the sensible ecosystem. Undoubtedly, offshore energy activities may constitute one basic source for environmental concern. States that share the same “seas”, or deal with the same environmental problems in the same area chose to be bind together for common benefit. Some of the most known regional conventions and other approaches are described below:

Convention for the Protection of the Marine Environment of the North Sea Atlantic (OSPAR Convention)

The OSPAR Convention came after two previous conventions entered into force on 25 March 1998 and there are presently 16 parties, including the European Union. The OSPAR Convention permits the dumping of abandoned and disused offshore platforms. 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 following the general opinion of the International Law produced by the LOSC and the London Dumping Convention. Also, the exact wording of the paragraph 2 of article 5 proves that only in case of causing any harm in people and in the environment, or interference with other legitimate uses of the sea, should installations be entirely decommissioned. Otherwise dumping is provided. A very important innovative point of the OSPAR Convention, according to the present author’s opinion is the one in paragraph 4 of the article 5 of the Annex III, which a general prohibition of the coastal state to inform the OSPAR Commission and other states about any decision to permit dumping and also keep record of all the offshore installations that have been dumped or decommissioned.

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178 These states are Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.
179 “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.”
OSPAR Commission works within OSPAR Convention to implement the OSPAR Convention and its strategies is taken forward through the adoption of decisions, which are legally binding on the Contracting Parties, recommendations and other agreements. Decisions and recommendations set out actions to be taken by the Contracting Parties. The most known decision of the commission is the “OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations” because it sets the general provision of the rescue and the recycle of the components, by following entirely or partially decommissioning, and only under specific circumstances, will not decommissioning be the chosen option. 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.

Arctic Council

The Arctic Council was established in 1996 for the promotion of cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants. It is currently the most known forum for international cooperation in the region and consists of the eight Arctic States: Canada, the Kingdom of Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States. Six international organizations representing Arctic Indigenous Peoples have permanent participant status. There are two regional instruments that been adopted under the auspices of the Arctic Council that specifically address offshore and oil extraction in the Arctic.

180 How OSPAR works, available at: https://www.ospar.org/about/how
181 Esmaeli, P. 247, supra note
182 Including Greenland and the Faroe Islands
183 Rosemary Rayfuse, Research Handbook on International Marine Environmental Law, P. 200
First, the Arctic Offshore Oil and Gas Guidelines (AOOGG) which provides potential Arctic – wide standards for environmental monitoring of oil and gas activities, testing acute toxicity, decommissioning structures, requiring best available technology and best environmental practice.¹⁸⁴ In 2013 the AGREEMENT on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic was signed promoting even more the cooperation and the monitoring in order to identify any dangers of pollution and prevent any incidents from the offshore oil and gas activities in the area.¹⁸⁵

Other Important Relative Conventions at a Regional Level

- 1976 Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (Barcelona Convention)¹⁸⁶
- 1988 Kuwait Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf¹⁸⁷
- 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region¹⁸⁸

National Law

States, bind by international conventions and respecting international community have implemented in their national legislation measures as regards dumping and offshore environmental protection.

The aforementioned Bureau of Safety and Environmental Enforcement of the United States of America, following the United States of America the Outer Continental Shelf Lands Act, which has been set into forced since 1953 and determines the jurisdiction of the United States in Outer Continental Shelf constituting one of the main tools for

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¹⁸⁵ Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, available at: https://oaarchive.arctic-council.org/bitstream/handle/11374/529/EDOCS-2067-v1-ACMMSE08_KIRUNA_2013_agreement_on_oil_pollution_preparedness_and_response_in_the_arctic_formatted.PDF?sequence=5&isAllowed=y
¹⁸⁶ Available at: http://wedocs.unep.org/bitstream/id/53220/consolidated_dumping_eng.pdf
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¹⁸⁸ Available at: http://www2.ecolex.org/server2neu.php/libcat/docs/TRE/Full/En/TRE-000892.txt
promoting safety, protecting the environment and conserving offshore resources at a national level, refers that decommissioning an offshore platform generally entails:\textsuperscript{189}

- Plugging all wells supported by the platform and severing the well casings 15 feet below the mudline;
- Cleaning and removing all production and pipeline risers supported by the platform;
- Removing the platform from its foundation by severing all bottom-founded components at least 15 feet below the mudline;
- Disposing the platform in a scrap yard or fabrication yard, or placing the platform at an artificial reef site; and
- Performing site clearance verification at the platform location to ensure that no debris or potential obstructions to other users of the Outer Continental Shelf remain

According to the Australian Petroleum Production & Exploration Association, The method of removing and disposing of a structure depends on factors such as the type of construction, size, distance to shore, weather conditions, the complexity of the removal operation and the environmental impact. It must also consider the safety of workers.\textsuperscript{190}

\textsuperscript{189} What is decommissioning of offshore platforms?, Bureau of Safety and Environmental Enforcement of the United States of America, available at: https://www.bsee.gov/faqs/what-is-decommissioning-of-offshore-platforms

Host Government Contract

Host Government Contracts are signed by either a national energy company or an energy ministry or both with the contractor that is usually any company operating the national arena. These contracts set the legal framework which governs the exploitation of states’ natural resources. They determine among others tax issues, rights and responsibilities of both parties. The Host Government may impose restrictions on the offshore energy activities about the safety of the installation and the environmental protection, including of course provisions about dumping and decommissioning. Especially, as regards dumping and decommissioning, according to Tim Martin, international oil companies usually have ongoing operations in the country and in order to ensure continuing good relations, they negotiate a reasonable and affordable process with the government to manage the decommissioning of fields and facilities that have reached their end.

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192 Tim Martin. P. 10, supra note

The EU Directive 2013/30\(^{193}\) on safety of offshore oil and gas operations amending Directive 2004/35/EC, was issued on the 12\(^{\text{nd}}\) of June 2013 and set the general principles and the appropriate measures that states have to take for the safety of the offshore energy activities (offshore oil and gas activities). The Directive follows the general idea dominated the international law about the safety of the offshore energy installation balancing the right of the exploitation and exploration of the natural resources with the freedom of navigation. It considers that a safety zone around installations must be establishing without escaping the internationally accepted 500 meter theory. It is worth mentioning though, that in the article 2 in the definition 21, it is mentioned that despite the 500 meter zone, there must be “a nearby zone of a greater distance from the installation at the discretion of the Member State” in which there may be any connected infrastructure, something that may lead us to the conclusion that as far as EU is concerned, in contrast with the LOSC there are cases in which the complete and reasonable operation of the offshore oil or gas installation might require the occupation of more than 500 meters of marine environment. It is also provided the appointment of a competent authority with certain regulatory functions. The Directive focuses on the accidental pollution rather than operational since it was described by the European Commission that a set of rules was issued in order to prevent various accidents and reacting *promptly* and efficiency should one occur.\(^{194}\) Apart from the points for the reasonable exploration and exploitation of the oil and gas offshore resources it also provides relative measures and provisions about decommissioning and permanent abandonment.

Conclusion

The right of states to establish offshore energy installations is fundamental and has evolved through the years. Despite the fact that it is a right which the international Community started to occupy itself with, we can considered that up until today, a quite satisfying legal framework has been created. The safety of offshore installations constitutes an important role and all states seem willing to implement and impose a

\(^{193}\) Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013L0030&from=EN

complete regulatory for the ensuring of their right. The safety of the offshore energy installation is critical by any point of view taking into account that different aspects have to be considered. The balancing of other states’ rights, such other states’ freedom of navigation and safety, the safety of people working on the installation and of course the safety of the installation itself and the environment. So, the right of establishing offshore installations has been secured in any marine zone, either it is territorial sea and continental shelf, or EEZ and High Seas. The said rights are stipulated in the LOSC, the most important convention for the law of the sea. Every member state has adopted laws and regulations following the relative provisions of LOSC in their national legislation.

It is questionable though if the existing international legal framework is efficient for the demands of the current international community. States are expressing more and more their arguments about the measures provided and frequently and now more than ever critical incidents that may threaten the offshore energy installation are likely to happen. The 500 meter zone, is not considered efficient any more, something that states explicitly mention, although at the same time, all states are afraid of the freedom of navigation and do not want to interfere with it by establishing larger safety zones facing once again the balancing of rights problem.

In the present author’s opinion, it would be effective if an amending of LOSC took place, not only for granting the right of expansion of safety zones beyond 500 meters, if it is necessary, but also including the offshore installations in many articles in which rights of acting are granted to states, such as in piracy cases, considering that an act against an offshore installation cannot be described as piracy because it is not provided so. Also, IMO could grant more easily authorizations for the said expansion. However, this seems unlike to happen soon because of many states opposition to this proposal.

The International Law pays serious attention to the environmental issues. Undoubtedly for the complete protection of an installation, issues concerning the environment must be resolved. As far as the environmental issue is concerned, the International Law is dominated by the principle “the polluter pays”, giving international responsibility to states to protect their installation while at the same time, important steps have been made as dumping is concerned after the completion of the energy project.
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APPENDIX

Article 60

Artificial islands, installations and structures in the exclusive economic zone

1. In the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize 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.

3. 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 organization. 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 dimensions of any installations or structures not entirely removed.
4. 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 navigation and of the artificial islands, installations and structures.

5. The breadth of the safety zones 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, measured from each point of their outer edge, except as authorized by generally accepted international standards or as recommended by the competent international organization. Due notice shall be given of the extent of safety zones.

6. All ships must respect these safety zones and shall comply with generally accepted international standards regarding navigation in the vicinity of artificial islands, installations, structures and safety zones.

7. Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

8. Artificial islands, installations and structures 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.