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Summary

Submarine Pipelines and Marine Environmental Protection: The Example of the Baltic Sea under Public International Law

Outline of the Thesis

The present thesis deals with an issue that has become more and more important during the last decades: Submarine oil and gas pipelines and marine environmental protection. Submarine pipelines connect either offshore installations with other offshore or land structures or they serve as a transport medium to transport oil or gas from one coast to another. One prominent example of such submarine transport pipeline is the *Nord Stream Pipeline* that will transport gas from Russia to Germany across the Baltic Sea, scheduled to come on stream in late 2011. The *Nord Stream Pipeline* will pass through the territorial seas of Russia, Germany and Denmark as well as through the Exclusive Economic Zones (EEZ) and on the continental shelves of Finland and Sweden.

Against this background, the present thesis examines the rights and duties of States and international organizations under international law of the sea and international environmental law regarding safety and security of submarine pipelines and marine environmental protection, focussing on the Baltic Sea and on procedural rights such as the rights to cooperation and public participation, the principle of due regard and the need for Environmental Impact Assessment (EIA).

Its first introductory part deals, in particular, with the history, definition and technical characteristics of submarine pipelines as well as with the problem of marine pollution of the Baltic Sea and conflicts of interests between States bordering the Baltic Sea.

The second and most important part of the thesis examines the rights and duties under the United Nations Convention on the Law of the Sea (UNCLOS), the "constitution of the oceans". An introductory chapter outlines the right to lay submarine pipelines as a freedom of the high seas (arts 87 para. 1 lit. (c), 112 para. 1 UNCLOS), the jurisdictional rights States exercise over pipelines and the UNCLOS systems of maritime zones and of marine environmental protection. As submarine pipelines in many cases pass through different maritime zones of several

States and as the rights and duties in those maritime zones may vary, a submarine pipeline has to be divided into segments in order to properly assess the nature and content of the rights and duties in the respective zones.

The second chapter analyses the rights and duties of States under the auspices of which a pipeline is laid (so called laying States) and of the International Seabed Authority (ISBA) in areas beyond national jurisdiction, i.e. the high seas and the Area.

The third chapter is devoted to the rights and duties of States regarding submarine pipelines in coastal States' maritime zones, i.e. internal waters, territorial sea, EEZ and continental shelf. In these coastal States' zones, the rights and duties are divided between the laying States and the coastal State, depending primarily on the character of the maritime zone and on the nature of the pipeline.

As submarine pipelines in most cases are laid under the auspices of more than one State, pass through different maritime zones of different States and may be in conflict with other uses of the ocean, the need to cooperate and to pay reasonable/due regard to the interests of other States (see arts 56 para. 2, 58 para. 3, 79 para. 5, 87 para. 2, 147 para. 1, 3 UNCLOS) and the settlement of disputes are of utmost importance for laying submarine pipelines, especially for preventing conflicts of interest and marine pollution, issues which are dealt with in the fourth chapter.

Besides UNCLOS, two other multilateral treaties are of special importance for laying, maintaining and decommissioning submarine pipelines in the Baltic Sea: the regional Convention on the Protection of the Marine Environment of the Baltic Sea (Helsinki Convention) and the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention). The first chapter of the third part examines the special rights and duties States have under the Helsinki Convention if they lay a submarine pipeline in the Baltic Sea. The Helsinki Commission (HELCOM) plays a decisive role in this regard. The second chapter is devoted to the Espoo Convention that obliges States to assess the environmental impacts of projects such as large-diameter oil and gas pipelines. The procedure of an EIA combines various procedural rights and duties such as cooperation, information exchange, consultation and public participation.

The fourth and last part of the thesis summarizes the findings of the analysis, taking into account the interplay of these three international

conventions, and gives an outlook on submarine pipelines and marine environmental protection in the Baltic Sea.

Conclusions of the Thesis

Summarizing the findings of the present study, the following conclusions may be drawn for submarine pipelines in general, particularly those that are not connected to any offshore installation transporting oil and gas from one coast to another such as the *Nord Stream Pipeline* (1), and for special types of submarine pipelines, in particular those connected to offshore installations, as well as for special activities linked to submarine pipelines (2). Finally, the general conclusions of the thesis are summarized, especially as regards the significance of an EIA and maritime spatial planning (MSP) for avoiding maritime conflicts of interests and for enhancing an environmentally sound use of marine space (3).

(1) (a) As regards *submarine pipelines in general*, States that have laid a submarine pipeline on the *bed of the high seas beyond the continental shelf* have the right and duty under international law of the sea to adopt and enforce environmental, safety and security measures as regards the laying, maintenance and abandonment or disuse of such pipeline. These measures include, *inter alia*, screening the seabed before laying the pipeline, monitoring and safety measures during operation and after abandonment of the pipeline. Where grave threats to the marine environment or to other freedoms of the high seas may occur, the laying State is obliged to remove a disused pipeline from the seabed of the high seas (obligation derived from arts 192, 194; 87 para. 2 UNCLOS). The laying State neither has the right nor the duty to establish a safety zone along a pipeline in which shipping or fishing activities are totally or partially prohibited as this would disproportionately delimit these freedoms of the high seas. The same applies for marking a pipeline on the high seas with buoys. The laying State, though, is obliged to publish the route of a pipeline in nautical charts.

Generally spoken, the ISBA does not have competences regarding submarine pipelines that do not serve the exploitation of the resources of the Area like oil and gas resources. However, in special cases, especially grave threats to the marine environment of the Area, the ISBA has limited competences in this regard, deduced from arts 145, 157 para. 2 UNCLOS.

Under the Espoo Convention, States that plan to lay a pipeline on the seabed of the high seas are, first and foremost, obliged to process an EIA and to cooperate. The Helsinki Convention is of no special importance for submarine pipelines on the seabed of the high seas as the Baltic Sea is totally divided into coastal zones, lacking any high seas area.

(b) With regard to submarine (transport) pipelines laid *in the EEZ* or *on the continental shelf* of a coastal State, the exclusive jurisdiction over such pipelines rests with the laying State (see art. 79 para. 1 UNCLOS); arts 60, 80 UNCLOS do not apply. According to art. 79 para. 2 UNCLOS, the coastal State may not impede the laying or maintenance of such pipelines, subject to its right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution from pipelines. The criterion of "reasonableness" is of utmost importance in order to define the competences of the coastal State. Furthermore, the delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State (art. 79 para. 3 UNCLOS). In order to secure the safety of a pipeline, the coastal State is entitled to publish the route of the pipeline in sea charts and to mark a pipeline with buoys in spatially limited areas (deduced from arts 79 para. 2, 194 para. 3 lit. (c), (d) UNCLOS). The coastal State does not, however, have the right to establish safety zones along the pipeline in its EEZ/on its continental shelf as this would disproportionately delimit the other freedoms of the high seas.

The Helsinki Convention and its environmental obligations are, according to its art. 1, applicable to the laying of submarine pipelines in the EEZ/on the continental shelf in the Baltic Sea. Under the Espoo Convention, States laying a pipeline in the EEZ/on the continental shelf as well as the respective coastal State are obliged as "parties of origin" to process an EIA and to cooperate.

(c) As the coastal State exercises sovereignty in its *territorial sea* and *internal waters*, a third State may only lay a submarine pipeline in those maritime zones with the consent of the respective coastal State. There exists no "right of innocent cable or pipeline passage" through these coastal States zones in international law of the sea. The coastal State may consent to the laying of a submarine pipeline or it may reject or condition such consent. Likewise, all measures linked to the laying of a pipeline such as screening the seabed or removing a disused pipeline are subject to the consent of the coastal State. In particular, the coastal State has to balance the laying of submarine cables and pipelines with the

right of innocent passage of vessels through the territorial sea (see esp. art. 21 para. 1 lit. (c), (f) UNCLOS).

According to art. 4 para. 2 Helsinki Convention, the Convention and its obligations apply to the internal waters and the territorial sea of States Parties. Under the Espoo Convention, the State that has laid a pipeline in the internal waters or the territorial sea of another State as well as the coastal State are obliged as "parties of origin" to process an EIA and to cooperate.

(2) As regards *special types of submarine pipelines*, especially those connected to offshore installations, as well as *special activities* linked to submarine pipelines, the following conclusions may be drawn:

(a) Submarine pipelines serving the *exploitation of the non-living resources of the Area* qualify as "activities in the Area" and are therefore subject to the express consent of the ISBA. The ISBA may prevent such pipelines in the Area, condition their laying or use or may request their removal if they are no longer used. The ISBA is also obliged to adopt and enforce regulations in order to protect the marine environment from harmful effects which may arise from the laying of submarine pipelines connected to exploitation installations in the Area.

Similarly, the coastal State exercises jurisdiction over pipelines serving the *exploitation of the non-living resources of its continental shelf* (so called "field-to-coast pipelines", "field-to-field pipelines" and "intra-field pipelines", see esp. arts 60, 79 para. 4 alt. 2, 80 UNCLOS). The coastal State is obliged to adopt and enforce measures in order to prevent marine pollution by such pipelines (see esp. arts 208, 214 UNCLOS). Furthermore, the coastal State has to remove, partially or entirely, abandoned or disused pipelines to ensure the safety of navigation, and having due regard to fishing, the protection of the marine environment and the rights and duties of other States (see art. 60 para. 3 UNCLOS). According to art. 60 paras 4-6 UNCLOS, the coastal State may, where necessary, establish reasonable safety zones along such pipelines in which it may take appropriate measures to ensure the safety of both navigation and the pipeline.

Likewise, under the Helsinki Convention, special norms apply to such "field-to-coast pipelines", "field-to-field pipelines" and "intra-field pipelines": They are subject to particular and detailed EIA procedures and to a total – and not only a partial – removal after being disused (see art. 12 and Annex VI Helsinki Convention), both obligations going beyond those laid down in UNCLOS.

(b) If *installations associated to submarine pipelines such as pumping stations* are essential for the functioning of the pipeline, they follow the pipeline regime; especially art. 79 UNCLOS is applicable. In order to guarantee the rights of the coastal State, it may establish reasonable safety zones around such associated installations and remove them if they are no longer used (arts 80, 60 para. 3-7 UNCLOS *mutatis mutandis*). If such associated installations are not essential for the submarine pipeline, the coastal State exercises exclusive jurisdiction over them and has the rights and duties derived from UNCLOS with regard to installations and structures (see esp. arts 56 para. 1 lit. (b) (i), 60 paras 2-6 UNCLOS).

(c) Another special category of submarine pipelines are those that *enter the territory or territorial sea* of a coastal State. Because of the sovereignty the coastal State exercises in its internal waters and territorial sea, art. 79 para. 4 alt. 1 UNCLOS is only declaratory in nature with regard to the segment of such a pipeline in the internal waters or the territorial sea. For the part of the submarine pipeline beyond the (extended) continental shelf, art. 79 para. 4 alt. 1 UNCLOS is not applicable, which means that the coastal State does not have any rights or duties, which remain with the laying State. Said article is, however, of utmost importance for the part of the pipeline that lies on the (extended) continental shelf: The coastal State may impose far reaching conditions for such submarine pipelines and is not bound by the continental shelf regime of Part VI UNCLOS, especially not by the criterion of "reasonableness" of art. 79 para. 2 UNCLOS.

(d) In principle, the international law of the sea rules on *dumping* (arts 210, 216 UNCLOS; arts 2 para. 4, 11 para. 1 Helsinki Convention) are not applicable to submarine pipelines. According to art. 1 para. 1 lit. 5 UNCLOS and art. 2 para. 4 Helsinki Convention, neither the laying nor the use of a submarine pipeline qualify as dumping. Likewise, said norms are not applicable if a disused pipeline is only left on the seabed, but they apply if a removed pipeline is dumped intentionally at another maritime place. If a submarine pipeline is washed with corrosion preventing devices before being used and those devices are discharged in the ocean, the dumping provisions also apply.

Likewise, the rules on *pollution from land-based sources* (arts 207, 213 UNCLOS; arts 6, 2 para. 2 Helsinki Convention) are generally not applicable to the use of submarine pipelines, which can be derived from their wordings and purposes. However, said provisions are applicable if a pipeline is laid in order to discharge waste-water into the sea. The

same applies for the discharging of corrosion preventing devices used to wash the pipeline.

(3) During the last decades traditional uses of the sea like shipping and fishing have tremendously intensified and new possibilities of making use of ocean space have developed, such as wind energy installations. As a consequence, threats to the marine environment as well as vertical and horizontal conflicts of interests have grown. In particular, the permanent use of the seabed by laying submarine pipelines and cables and exploiting oil and gas resources has caused various conflicts, especially in coastal areas, but recently and increasingly also in areas farer away from the coast.

In order to avoid such conflicts and to aim for an environmentally sound use of marine space, it is crucial to advance information exchange, coordination and cooperation as well as the principle of due regard. In this regard, especially the procedure of an EIA presents an opportunity to link different procedural rights and duties, such as information exchange, coordination and public participation. So far, an EIA seems to be the best modus in international law to enhance coordination and to avoid conflicts between diverging interests and uses and to minimize marine environmental pollution. The EIA procedure is also closely linked to the UNCLOS principles of due regard and balance of interests.

In this context, the need for a MSP has been increasingly recognized during the last years, also at European Union level. MSP is a concept that aims to enhance coordination of different uses of the ocean, to avoid conflicts and to find an equilibrium between the economic development of the oceans and the need for marine environmental protection. Compared to spatial planning on land, MSP has its particularities and difficulties as for the three dimensions of the ocean (seabed, water column and surface), the mobile character of most ocean uses and the lack of full State sovereignty in most maritime zones.

Because of the sovereignty the coastal State exercises in its internal waters and territorial sea, its competences regarding MSP in these zones are far reaching, also with regard to laying submarine pipelines and cables. In its EEZ and on its continental shelf, the options for a MSP are limited as are the competences granted to the coastal State in these zones by international law of the sea. In particular, a MSP can only to a certain extent affect and encompass transport pipelines that are not connected to offshore installations. As regards MSP in coastal States' zones, transboundary aspects have to be taken into account. Therefore, coordination of MSP policies at a supranational as well as on an interna-

tional – regional and global – level is crucial for its success. In areas beyond national jurisdiction, MSP can only be developed at an international – regional and global – level. In this respect, the role of the ISBA regarding planning and coordination of different uses of the sea as well as marine environmental protection should be enhanced.