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PROTECTION OF UNDERSEA TELECOMMUNICATION CABLES IN THE BALTIC SEA

Abstract: *this paper proposes to investigate whether the laying of submarine telecommunications cables on the seafloor needs special protection of international legal mechanisms.*

The paper considers how submarine cables are currently being secured at the international level and challenges for the protection of submarine cables including war law.

Keywords: *submarine cables, telecommunication cables, law of the sea, shipping.*

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ОХРАНА ПОДВОДНЫХ ТЕЛЕКОММУНИКАЦИОННЫХ КАБЕЛЕЙ В БАЛТИЙСКОМ МОРЕ

Аннотация: *в статье предлагается исследование вопроса, требуется ли особая защита посредством международно-правовых для прокладки подводных телекоммуникационных кабелей по морскому дну.*

В работе рассматривается, как в настоящее время обеспечивается безопасность подводных кабелей на международном уровне, а также проблемы, связанные с защитой подводных кабелей, включая военное право.

Ключевые слова: *подводные кабели, телекоммуникационные кабели, морское право, судоходство.*

1. Introduction.

The internet has gradually become the important part of everyday life. Modern technologies like telegraph, telephone, radio, and internet need use of submarine fibre-optic cables.

The main part of the undersea telecommunication cables belongs to the private companies and consortia of companies [3]. The private companies carry approximately 99% of the digital communications (e.g., voice, data, internet) by submarine cables despite the proliferation of satellites.

But the undersea telecommunication cables are very vulnerable [3]. In 1871, Samuel Morse in a letter to the Telegraphic Conference asked to protect the telegraph against all attack or damage [6].

Damage to cables may be caused by intentional acts (e.g., cutting of cables) and unintentional damage (e.g., fishing, anchoring, or natural disasters) [3]. The majority of incidents (about 75%) are caused by human activities, mainly fishing and anchoring, undersea mining, oil and gas activities, and dredging [7]. About 14% of cable breaks are caused by natural events (e.g., earthquakes), and 6% by equipment failure. Intentional sabotage (cutting cables at sea or attacks) [3] and shark bites rarely also take place.

For example, in 1850 the first submarine cable was laid across the English Channel. After that a fisherman cut out a section of a cable as a souvenir.

The problem of protection of submarine cables in international law is scrutinized in this paper. First, it explores occurred incidents, the applied to them rules of law. The international legal documents in this field are also examined. Finally, a series of recommendations is made for the further development of international law in this direction.

2. Incidents.

The damage to submarine cables occurs worldwide. In October 2022, a submarine cable connecting Shetland Islands and Faroe Islands was cut accidentally by a fishing trawler [1]. It disrupted communications on the Shetland Islands [3].

In February- March 2024, cables in the Red Sea and off the coast of West Africa were damaged by the sinking of a vessel attacked by Houthi rebels [1].

In January 2022, an underwater volcano erupted in Tonga and damaged an under-sea cable.

In June 2023, an undersea cable in Alaska was severed by naturally shifting ice [10]. The region was left without internet or cell phone service.

Multiple cables of the «Rostelecom» company in the Baltic sea in the exclusive economic zone (EEZ) of Finland were damaged in 2023–2025. Russian vessel was allowed to repair it.

In November 2024, the Russian «Yantar» research vessel was ordered by the Irish navy to leave the Irish area with submarine cables.

2.1. Incident with «Vezhen» vessel.

The vessel «Vezhen» departed from the Russian port of Ust-Luga and was navigating between Gotland and Latvia. It damaged the cable, which belongs to Latvia's state radio and television centre (LVRTC) in Swedish EEZ at a depth of at least 50 metres on 26 January 2025.

This cable linked the Latvian city of Ventspils with Sweden's Gotland island.

The Maltese-flagged ship «Vezhen» was boarded and seized by Swedish authorities. However during the investigation it was determined that a combination of weather conditions and inadequate equipment and seamanship caused to the cable damage.

The seizure of the ship was lifted [10].

After this incident the NATO initiated its mission in the Baltic sea and deployed patrol ships to the area.

The Norway-flagged cargo ship, the «Silver Dania», a Norwegian ship with an all-Russian crew, was also sailing between St. Petersburg and Murmansk. It was stopped by a Norwegian coast guard ship at the coast of Tromso in northern Norway. The ship was suspected to have been involved in serious damage to the mentioned earlier cable in the Baltic Sea, boarded and seized on 31 January 2025 the vessel at the request of the Latvian authorities.

The «Silver Dania»'s owner, the Silver Sea shipping group, denied that the vessel was involved in the incident. The vessel was later released.

2.2. Incident with Balticconnector.

In October 2023, undersea cables between Estonia and Finland and Estonia and Sweden were damaged, along with the Balticconnector gas pipeline. The suspected «Newnew Polar Bear», a Hong Kong-flagged, Chinese registered vessel navigated in that area at the time of the incidents. Estonian and Finnish authorities attempted to contact the Hong Kong-flagged vessel, but did not board or detain the ship without flag state-consent [9]. In October 2023, the «Newnew Polar Bear» returned to port in Tianjin, China. The Chinese government later admitted the vessel was responsible for damaging the pipeline and cables, but called the incidents accidents [2, p. 8].

The Balticconnector incident illustrates that while the coastal State may use the right of hot pursuit against a ship that has caused an oil spill or gas leakage with its anchor (Arts. 79(2) and 221 UNCLOS in combination with Art. 111(2) UNCLOS) on the grounds of protecting and preserving of the marine environment (Art. 56(1)(b)(iii) UNCLOS), a similar right does not exist in relation to submarine cables that a ship damages [9].

2.3. Incident with C-Lion1.

On 17–18 November 2024, a PRC-flagged vessel carrying Russian fertilizer was suspected of damaging two cables linking Sweden to Lithuania and Finland to Germany (C-Lion1 cable and BCS East-West Interlink). The first cable, C-Lion1, is Finland's only undersea data cable to run from the Nordic country directly to central Europe [2, p. 7].

The Chinese bulk carrier «Yi Peng 3» with a Russian captain was suspected. The coastal States received the flag State's (China) consent to inspect the ship. The inspection demonstrated that the anchor of the «Yi Peng 3» damaged the cable.

The detention of the Chinese vessel became the first case since 1959, when the interdiction procedure was applied to the vessel based on the Art. 10 of the Paris Convention. In December 2024 the vessel left the Baltic sea.

2.4. Incident with Estlink.

On 24–25 December 2024 Estlink 2 power line and four telecoms cables linking Finland and Estonia were damaged [10] by dragging the anchor of the vessel across the

seabed. Finnish police seized a suspected tanker carrying Russian oil flagged in the Cook Islands the «Eagle S». The seizure was lifted only in March 2025.

3. Legal regimes for protection of submarine cables.

The submarine cables protection under international law is limited. There are only two treaties protecting submarine cables: the 1884 International Convention for the Protection of Submarine Telegraph Cables (Paris Convention) and the United Nations Convention on the Law of the Sea (UNCLOS).

3.1. The 1884 International Convention for the Protection of Submarine Telegraph Cables.

The Paris Convention was signed only by 36 states, including the US and Russia, but not the PRC. The Convention was concluded at Paris on March 14, 1884, and entered into force on May 1, 1888. The treaty criminalizes willful or culpably negligent damage to subsea cables [2, p. 6].

Art. I states that the Paris Convention applies outside territorial waters of States Parties. Thus, the Paris Convention protects certain submarine cables on the bed of the high seas.

The jurisdiction to investigate and prosecute cable is granted by the Convention only to the flag state or the state of nationality of an alleged perpetrator.

A question arises in case of the submarine cable damage, whether cable owners have legal recourse to claim losses, including consequential losses. If the damage occurs within territorial waters, national courts can exercise jurisdiction. If the damage occurs on the high seas, state courts may not have jurisdiction in such instances [3]. According to Art. VIII the tribunals competent to take cognizance of infractions of the present Convention are those of the country to which the vessel on board of which the offence was committed belongs.

3.2. The UNCLOS.

The UNCLOS grants all nations the freedom to lay and operate undersea cables beneath the high seas and on the continental shelf, within a coastal nation's EEZ (Art. 112 UNCLOS) [3].

Under UNCLOS, states have jurisdiction over cable incidents occurring in their territorial waters.

In the EEZ states have exclusive rights to natural resources, but the jurisdiction over the submarine cables in this area is not mentioned. Only jurisdiction for flag states and states of the nationality of a perpetrator have clear jurisdiction over cable cutting. Any jurisdiction by victim states is unclear [4]. So, the certain gaps in the legal regulation of submarine cables are demonstrated in the UNCLOS.

States are obliged to make regulations to protect subsea cables and penalise acts causing damage under domestic law (Art. 113 UNCLOS), including right to make regulations protecting cables in territorial sea (Art. 21(1)(c) UNCLOS). Many states did not adopted such laws.

This requirement addresses only flag states of the damaging vessel, not the country impacted by this damage. This requirement was not implemented by a number of states.

In such a way, a conclusion is made that existing international legal regimes do not adequately protect subsea data cables from intentional damage, nor do they effectively hold perpetrators of such damage accountable.

3.3. Interdictions.

No uniform standard exists for legal regulation of interdictions in case of cable damage. It further complicates cooperation between states.

According to Art. 10 of the Paris Convention warship captains may demand documents proving the nationality of a vessel from the captain of a ship suspected of damaging a cable, but the treaty specifies no other boarding and investigation methods or rights.

In 1959 a State Party to the 1884 convention applied this authority. After several transatlantic submarine telecommunications cables were damaged, the suspected Soviet trawler «Novorossiisk» was boarded by the U.S.S. Roy O. Hale on 26 February 1959. In November 2024 the 1884 treaty was again interpreted by Finland as permitting boarding and investigation of the suspected vessel [11].

Nevertheless, it is disputable whether Art. 10 of the 1884 Paris Convention for the protection of cables could enable States Parties to board the suspected vessel if they consider that the cable was damaged by this vessel. This provision has unclear legal status [9].

In case with the damage of the Balticconnector cable, the vessel was not boarded without the consent of a flag state, in case of the C-Lion vessel «Yi Peng 3» vessel was arrested.

At present Eastland – a coastal state of the Baltic sea in its parliament prepared a bill that military force may be applied against merchant ships if they are suspected of threatening submarine cables or other infrastructure.

This document was elaborated as a result of the increasing incidents of damage to maritime cables.

The issue of boarding of the suspected vessel is disputable, but States Parties can investigate acts of damage to submarine cables in their EEZ and continental shelf. There is no restriction for such rights of a States Party.

3.4. Concepts of piracy and terrorism.

Complementary legal bases for coastal States to combat the submarine cable outside the territorial sea may be based on the concepts of piracy (Art. 101 UNCLOS) and terrorism in the international law.

The Convention for the Suppression of Terrorist Bombings and the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA) and its 2005 Protocol include such offences (Art. 3bis (1)) and the right to board the suspected ship with the express authorization of the flag State (SUA Protocol, Art. 8bis (5)).

The 1857 Copenhagen Convention for the navigation in the Danish Straits in the Baltic Sea in Art. I (1) stipulates that: «No ship for the future shall under any pretext whatsoever be seized or subjected to any stoppage on its way through the Sound and the Belts».

In the Case Concerning Passage Through the Great Belt (Finland v. Denmark) before the International Court of Justice, Denmark insisted on the right of strait-specific non-suspendable innocent passage applies to the Great Belt.

However, Denmark would be allowed to take measures against a foreign ship, suspected in damage to submarine cables. In such case the passage of that vessel would be prejudicial to the peace, good order, or security of Denmark within the meaning of Art. 19(1) of UNCLOS. A ship suspected of conducting an attack transits through the Danish territorial sea in the Great Belt or Øresund, and poses a security threat to Denmark.

Attacks on subsea cables and pipelines could qualify as acts of piracy in its broad interpretation.

3.5. Concepts of armed attack and self-defence.

It would be questionable whether intentional acts of damage could qualify as armed attack, whether the scale and effects of such acts meet the required gravity; which state shall be identified as a victim State since submarine cable serves several states [1]. If acts of damage to submarine cables occur in the territorial sea of a coastal State, or in the archipelagic waters of an archipelagic State, the coastal State or archipelagic State may be a victim State of a prohibited use of force or armed attack. This incident might be considered a use of force against the sovereignty, territorial integrity or political independence of any State under Art. 2 (4) of the UN Charter, and Arts. 19 (2) (a), 39 (9) (1) (b), and 54 UNCLOS. If submarine cables are damaged in the coastal State or archipelagic State's EEZ or continental shelf [1], it would be difficult to apply to submarine cables the concept of a prohibited use of force under Art. 2 (4) or armed attack under Art. 51 of the UN Charter, because unlike vessels submarine cables are not flagged in any State.

Besides in the context of the ICJ's «scale and effects' test, the incidents were not sufficiently grave for invoking the right of self-defence, since caused damage was not too significant [8].

4. NATO.

Incident with an undersea fiber optic cable between Latvia and Sweden damaged in January 2025 stimulated NATO to deploy patrol ships, aircraft and naval drones for the mission for the enhanced surveillance to the area and triggering a sabotage investigation by Swedish authorities. NATO reserve the right to take action against ships suspected of posing a security threat.

NATO deployed mission «Baltic Sentry» follows a string of incidents in which power cables, telecom links and gas pipelines have been damaged

5. COUNTERMEASURES.

The United Nations resolutions adopted by the General Assembly on 9 December 2021 76/72 and on 30 December 2022 77/248 on the oceans and the law of the sea called upon states to enact laws and regulations «addressing the breaking or injury of submarine cables or pipelines beneath the high seas done wilfully or through culpable negligence by a ship flying its flag or by a person subject to its jurisdiction, in accordance with international law [6].

The need for a new global treaty on the protection of submarine cables is apparent to close the current gaps in the legal framework [1]. New agreement shall extend jurisdiction beyond flag states for intentional cable damage on the high seas and criminalize the injury of cable. Such rules of law could be adopted as UNCLOS amendment, an agreement under UNCLOS or a separate legal instrument for cable protection and security [2, p. 6; 9].

Another opportunity would be a resolution suggested by United Nations Security Council (UNSC) [5]. However, UNSC resolutions risk vetoes.

Additional legal basis is required for the enforcement measures against a ship suspected of damaging submarine cables in the Baltic Sea (interdiction rights). This treaty would expand coastal States' enforcement powers in the EEZ, would grant universal jurisdiction over intentional sabotage [5].

Cables shall be designed and operated in order to be able even to reroute traffic to alternative paths in the event of a cable failure to another undersea cable, a terrestrial line, or satellite [3].

For example, service disruption due to the cable outage in Svalbard was avoided due to traffic being rerouted to a parallel cable. The damage of a cable in Tonga disrupted service for five weeks.

The deliberate attack off the southern coast of France disrupted service for several hours.

These proposals however are difficult to implement. The conventions amendment require as negotiations and other diplomatic efforts. This procedure is are time-consuming.

Another proposal is to establish cable protection zones. The legality of cable protection zones may be disputed. Since freedom of navigation in the EEZ including anchoring is protected in the international law, Art. 60 (4–6) UNCLOS is sometimes interpreted as preventing the establishment of safety zones around submarine cables [8].

Denmark, Australia and New Zealand, nevertheless, use cable protection zones. All anchoring and fishing are banned in those areas.

Spatial separation of submarine cables from other marine activities is also an effective method to combat the incidents with damage of submarine cable.

Conclusions

The conclusion can be made that international law is insufficient to protect under-sea cables. The prosecution of vessels and states damaged the submarine cables is difficult. It is necessary to elaborate a comprehensive international legal framework for the protection of submarine cables.

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