

Utpal Kumar Raha
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Submarine Cables Protection and Regulations

A Comparative Analysis and Model
Framework

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To our Parents

Preface

Submarine cables were laid on the seabed between land-based stations to facilitate the transmission of data, telecommunications, the Internet, etc.—a driving factor to the global economy and strategic tool in national security. Modern society may not be aware of cables’ vulnerabilities posed by natural or anthropogenic forces and remains negligent to cable governance issues. Hence, laying, protection, and quick relinking of cables have become critical with timely approval (including that of national authorities) for cable operators and cable repairing ships to mobilize becoming crucial; yet, this remains broadly challenging in most jurisdictions.

Under the United National Convention on the Law of the Sea, 1982 (UNCLOS), the States’ legal frameworks may have a significant role in ensuring the laying and protection of submarine cables. The present study deals with the submarine cable regime comprising international law, legal instruments on cables in the selected jurisdictions, and dedicated submarine cable regimes of Australia and New Zealand. It undertakes a comparative and analytical research method on available legal premises to ascertain the fundamental principles, doctrines, approaches, and existing legal standards on submarine cables.

It reveals that States’ responses to their international obligations concerning cables vary among jurisdictions significantly. Available legal standards in many countries are no longer adequately addressing challenges in laying and protecting the submarine cable. However, they have indicated governance approaches such as imposing control on marine activities, prescribing dedicated authority, and obligations on cable injuries, building cooperation, and promoting awareness about the critical nature of cables. The potentials of these approaches are required to be enhanced further by definite actions. The submarine cable regimes of Australia and New Zealand are not free from the criticisms; however, they have made a significant contribution to the jurisprudence of national laws.

As a way forward, this study proposes a draft model legal framework for national instruments for the governance of submarine cables networks within their jurisdictions.

Kharagpur, India

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We express indebtedness to our parents and other members of our family, who have always been with our side selflessly.

Utpal Kumar Raha
Raju K. D.

List of the International Conventions, Statues Other Arrangements

A. International Conventions

1. The Convention for the Protection of Submarine Cable March 14, 1884, TS 380.
2. Convention on the Continental Shelf, April 29, 1958, 499 UNTS 311.
3. Convention on the High Seas, April 29, 1958, 450 UNTS 11.
4. The United Nations Convention on the Law of the Sea December 10, 1982, 1833 UNTS 3.
5. The International Regulations for Preventing of Collisions at Sea October 20, 1972, 1050 UNTS 16.
6. The Protocol to the 1972 Convention on the Prevention of Marine Pollution by the Wastes and other Matter November 7, 1996, 2006 ATS 11.
7. Convention for the Protection of the Marine Environment of the North-East Atlantic, September 22, 1992, 32 ILM 1069 (1992).
8. Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) 1989 UNTS 309, 30 ILM 800 (1991).

B. National Statutes and Instruments and Other Arrangements

1. Australian Communication and Media Authority Act 2005 (No. 45, 2005) of Australia.
2. Canadian Environmental Assessment Act, 2012 (S.C. 2012, c. 19, s. 52).
3. Canadian Navigable Waters Act (R.S.C., 1985, c N-22).
4. French Code of Postal and Electronic Communications.
5. General Maritime Direction 2012 of Columbia.
6. Ghana Shipping (Protection of Offshore Operations and Assets) Regulations 2012.
7. Law of the People's Republic of China on the Administration of Sea Areas 2001 (No. 61).

8. National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.).
9. Regulations on the Management of Laying Submarine Cables and Pipelines 1989 of China.
10. Regulations on the Protection of Submarine Cables and Pipelines 2004 of China.
11. Submarine Cables and Pipeline Protection Act 1963 (Act No. 61 of 1963) of Australia.
12. Submarine Cables and Pipelines Protection Act 1966 (1966 No 5) of New Zealand.
13. Submarine Cables and Pipelines Protection Act 1996 (Public Act 1996 No. 22) of New Zealand.
14. Telecommunications Business Law of Japan (Law No. 86 of December 25, 1984).
15. The Coastal Zone Management Act 1972 (CZMA) (16 U.S.C. 1451 et seq.).
16. The Directive, viz. On Strengthening the Protection of Submarine Cables and Ensuring the Safety of International Telecommunications 2007 of Vietnam.
17. The Law of Navigation 20.094, of Argentina.
18. The Marine and Coastal Access Act 2009 (MCAA) (c 23) of UK.
19. The Minister of Transportation Decision No. 94/ 1999 (Regulation of Submarine Cables 1999) of Indonesia.
20. The Submarine Cable Act, 29 February 1888, 47 US Code.
21. The Submarine Cable Deployment Guidelines 2010 of Singapore.
22. The Submarine Cable Repair Guidelines 2010 of Singapore.
23. The Submarine Telegraph Act, 1885 (c. 49) of UK.
24. The Telecommunication Act 1997 (No. 47, 1997) of Australia.
25. The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, (ACT No. 80 Of 1976) of India.

Domestic Court Cases and Other Materials

Cases

Ninety-Four Consortium Cable Owners v Eleven Named French Fishermen, Tribunal de Grande Instance de Boulogne Sur Mer (1st Chamber) August 28, 2009, (File No 06/00229DG/LM).

Société Telus Communication v. Peracomo Inc., 2011 FC 494 (CanLII).

Peracomo Inc. v. Société Telus Communications, 2012 FCA 199 (CanLII).

Peracomo Inc. v. TELUS Communications Co., 2014 SCC 29 (CanLII),

Telefónica International Wholesale Services America (Tiws) and Others vs. Tamika S A. And Other, First Court of Appeals in Civil Matters, Official Notice 0003-000193/2015.

Reports

A. United Nations General Assembly

- a. United Nations General Assembly Resolution A/65/37a On Oceans And Law Of The Sea (U.N. GAOR, 65th Sess., 59th plenary meeting).

B. Other Reports

- a. Report on Reliability of Global Undersea Communications Cable Infrastructure (ROGUCCI), Issue I, (IEEE Communications Society and East West Institute, 2010).
- b. Report on Submarine Cable Information Sharing Project: Legislative Practices and Points of Contact, Asia-Pacific Economic Cooperation (APEC, 2011).
- c. Final Report 1: Separation, the Communications Security, Reliability and Interoperability Council IV, Working Group 8 (“WG8”), December 2014.
- d. Report on the Operation of the Submarine Cable Protection Regime—A Report on Five Years’ Operation of Schedule 3A of the Telecommunications Act 1997, the Submarine Cable Protection Regime, September 2010.

About This Book

This book acknowledges that laying, quick relinking, and protecting submarine cables have become critical with timely approval for carriers and cable repairing ships and are most challenging in many jurisdictions. It identifies that a dedicated national instrument on submarine cable as a way forward is yet to be appreciated by many of the States, and presently, there is no model legal framework for national instruments on submarine cables available. To bridge these gaps, the book undertakes a systematic inquiry and analysis of the relevant authorities of submarine cable regimes. It consults existing literature on international law on cables and analyses specific principles and provisions on laying repair and maintenance of submarine cables and States' obligations towards protecting cables from vulnerabilities. It touches upon cable regulation in the deep sea concerning the International Seabed Authority and proposed biodiversity agreement. It indicates suitable measures on cable laying, etc., and security risks in the marine space beyond the national jurisdictions. To map States' response, it explores the domestic cable regimes, including both the selected jurisdictions and Australia and New Zealand, and analyses specific legal provisions and institutional setup, and demonstrates State practices, approaches, and loopholes in governance of the cable system within national jurisdictions. This book suggests adopting the spatial ocean management approach, dedicated regulatory authority, a competent enforcement agency, strict liability with exemplary punishment on cable damage, etc., and the cable system to strengthen the cable system's management. Finally, it arranges the fundamental premises of a common minimum framework for national instruments seeking coastal States' deliberations in implementing initiatives towards a robust law and policy for reliability, resiliency, and security of the cable system. The cable industries, pipeline, fishing, and shipping industries, academicians, government authorities and international bodies, and the maritime community worldwide are looking at the issues and challenges of submarine cable regimes, particularly national regimes, and suggestive remedial measures. Most respectfully, these stakeholders may find the present book unique, enriching the existing literature and a helpful reference.

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Symbols and Abbreviations

APEC	Asia-Pacific Economic Cooperation
COLREGS	The Regulations for Preventing Collision at Sea, 1972
EEZ	Exclusive Economic Zone
EIA	Environment Impact Assessments
FAO	Food and Agricultural Organization
ICPC	International Cable Protection Committee
MPA	Marine Protected Area
OSPAR	The Convention for the Protection of the Marine Environment of the North-East Atlantic 1992
TW	Territorial Water
UNCLOS	United Nations Convention on the Law of the Sea 1982
UNEP	United Nations Environment Programme
UNODC	UN Office on Drugs and Crime
UN	United Nations

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Chapter 1

Introduction



1.1 Background

Freedom of laying submarine cables is an essential component of the freedom of seas that intends to promote telecommunications *vis-a-vis* international communications.¹ Submarine cables (cables) are laid on the seabed between land-based stations to carry telecommunication, data, and the iInternet for multiple applications.² They facilitate telecommunications, and it is of vital importance to the global economy and national securities of all States.³ To assist, promote, and regulate the activities relating to cables' laying, the international community has agreed on several instruments.⁴ The international Convention on the Law of the Sea 1982 (UNCLOS) is the most important among them.⁵ The State parties to this Convention also have obligations to support submarine cables' laying and protection in marine spaces within the national

¹Freedom of the high seas is a right conferred on all States under international law that the high seas are open to all. Freedom to lay submarine cable and pipeline is one of the six freedoms of the high seas.

Article 87 of UNCLOS 1982 provides 'Freedom of the high seas

1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, *inter alia*, both for coastal and land-locked States:

(a) freedom of navigation;

(b) freedom of overflight;

(c) freedom to lay submarine cables and pipelines, subject to Part VI;

(d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI;

(e) freedom of fishing, subject to the conditions laid down in Section 2;

(f) freedom of scientific research, subject to Parts VI and XIII.'

For an overview of the international regime on submarine cables, see Burnett et al. [1].

²Starosielski [2].

³Beckman [3].

⁴Burnett et al. [1].

⁵Burnett et al. [1].

maritime jurisdictions.⁶ They are to respect other States' rights to lay submarine cables, however are entitled to take reasonable measures to regulate submarine cable operation (survey of the submarine cable route, laying, repairing, and maintenance of cable).⁷

Submarine cables are laid for the transmission of data, which sustains the Internet and e-communications.⁸ These submarine cables carry massive data, internet, and voice across the ocean/seas connecting continents and countries, which is a driving factor behind the modern world.⁹ Emerging technological developments are opening new windows of submarine cable uses to explore and exploit the undersea.¹⁰ Besides the telegraph cables, submarine cables include submarine power cables and fiber optic telecommunication cables. Moreover, these cables are also used to collect data about ocean environments and called green cables.¹¹ These cables are nevertheless vulnerable and susceptible to damage from either anthropogenic or natural forces.¹² Natural hazards such as submarine landslides and sediment movability pose a severe risk to the cable system.¹³

These cables are exposed to other competing and conflicting marine uses and interests. Other marine interests and activities, including fishing, shipping, exploration, exploitation of marine resources, hinder and disrupt submarine cables. The laying of submarine cables is susceptible to interference caused by these activities. Submarine cables face obstructions from those marine affairs and related activities, especially in the coastal areas.

⁶Article 79 of UNCLOS 1982 provides 'Submarine cables and pipelines on the continental shelf.

1. All States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.

2. 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 coastal State may not impede the laying or maintenance of such cables or pipelines.

3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.

4. Nothing in this Part affects the right of the coastal State to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.

5. When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.'

⁷Davenport [4].

⁸Starosielski [2].

⁹Starosielski [2].

¹⁰Clark [5].

¹¹Agarwala [6]. It states that "... new submarine cables laid for the dual purpose of telecommunication and data gathering and ... simply 'green cables', where a green cable system is defined as a fibre-optic submarine cable system equipped with sensors at regular intervals along the entire length of the cable."

¹²Pope et al. [7].

¹³Carter, and Burnett. [8].