



NATIONAL SUBMARINE CABLES PROTECTION AND RESILIENCE FRAMEWORK

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PART I

INDEX

1. INDEX OF INFRASTRUCTURE

This section is to consolidate and catalogue infrastructural details for current submarine cable connectivity as well as planned future connectivity. Consider establishing submarine cables as critical infrastructure. This may require references to legal or regulatory provisions or amendments thereto.

i. Existing Fiber-Optic Cable Connections

- **Cables, Operators, Landing Points, Routes and Stations**

- a. [Identify the cable name, cables to which the country is connected. Specify the ownership of the cables to which the country is connected. Specify the national operators of the cables to which the country is connected. Identify landing points and landing stations.]

- **Cable Maintenance and Repair**

- a. [Specify the existing contracts for maintenance and repair, including the locations of the nearest station repair vessel and nearest supply of cable. Specify any additional information that would be relevant in case of emergency]

- **Cable Resiliency**

- a. [Detail the terms of satellite backup for the cables to which the country is connected]

ii. Other Cable Connections

- a. [Identify other cables to which the country is connected, including submarine electrical cables, telephone cables, or discrete cables connected to offshore infrastructure]

iii. Connected Infrastructure

- a. [Identify offshore infrastructure connected by cables]

iv. Planned Connections

Planned Cables, Operators, Landing Points, Routes and Stations

a. [Identify any planned or in-process cables with all the details]

2. INDEX OF STAKEHOLDERS

This section is to consolidate information and contact details for all key stakeholder. Add/remove and amend as appropriate.

i. Relevant Agencies and Authorities

ii. Industry Stakeholders

a. [Identify all industry contacts related to the production, laying, maintenance and repair, ownership and operation of cables connected to the country]

b. [Identify a point of contact at the International Cable Protection Committee]

c. [Identify other relevant industry contacts like telecommunications providers, and other private sector stakeholders]

iii. Other Stakeholders

a. [Identify interest groups who operate in or rely on maritime spaces including fishing, ports, shipping and extractive industry groups. Identify points of contact for group leaders, if possible.]

iv. Foreign State Stakeholders

a. [Identify the other states connected to the same cables to which is connected. Identify the national point of contact for such states]

b. [Identify other neighboring States whose laws and regulations may affect cable laying, maintenance, repair and protection]

c. [Identify relevant regional organizations and the point of contact for such regional organisation(s)]

v. Non-Governmental and Experts

a. [Identify any international organisation, non-governmental organizations or civil society organizations that take an active role in addressing submarine cable protection]

b. [Identify any academic, legal, independent or other relevant experts in who focus on or could be useful in addressing submarine cable protection]

3. RELEVANT MARITIME AREAS

This section is to consolidate information, maps and charts about relevant maritime areas.

i. Territorial Sea, Contiguous Zone and Exclusive Economic Zone

[Maritime chart showing designated Territorial Sea, Contiguous Zone and EEZ]

ii. Continental shelf claims

[Maritime chart showing continental shelf claims]

iii. Maritime boundary disputes

[Maritime chart showing maritime boundary disputes]

iv. Charts showing marine protected areas

[Maritime chart showing marine protected areas]

4. DEFINITIONS AND AGREED TERMINOLOGY

To be completed as a final step to ensure alignment with national legislation and terminology

THE NATIONAL FRAMEWORK

5. SCOPE, APPROACH AND METHODOLOGY

[Amend the text to align with national priorities and strategies, summarize the final content and intention of the document and indicate how it was drafted and how it will be amended over time. Reference can be made to any accompanying work related to the telecommunications economic and development plans.]

This Submarine Cable National Resilience Framework details measures that could or should be taken to protect our submarine cable network. While it is not intended to be exhaustive of all possible activities, it does provide baseline considerations and good practices, and consolidates the key information needed to build resilience and protection, identify vulnerabilities and respond to threats and damage in a coordinated in efficient manner.

This Framework is a living instrument that can be altered as needed to ensure it is providing effective oversight and protection of this vital national concern.

[Establish the entity and mechanism for amendment]

[Note any features needed to ensure it has national significance and is implementable.]

6. ASSESSMENT OF RISKS AND THREATS

[This section is to outline possible vulnerabilities risks and threats to submarine cables to facilitate designing appropriate responses. Update as incidents occur.]

i. Technical

a. [Identify any unique technical vulnerabilities within the cable network infrastructure as well as critical maintenance details]

ii. Natural

a. [Identify any geographic, seismological or seasonal matters that may interfere with submarine cable resilience]

iii. Human Activity

a. [Specify any country-specific aspects like concentration of fishing or port activity near cables that make unintentional faults more likely]

b. [Identify any known or potential criminal or terrorist element that may see benefit in targeting submarine cables, as well as any prior incidents that have occurred. Consider extortion, terrorism, precursor crime (creating a blackout to perpetuate other crimes)]

7. RESILIENCE AND PROTECTION MEASURES

[This section is to outline agreed mitigation measures related to the laying, maintenance and protection of submarine cables. It is recommended that guidance is taken from the ICPC Best Practices on cable protection and resilience, which are referenced. Some measures may require legal/regulatory changes or cooperation mechanisms which should carry over to following sections.]

i. Physical Measures

a. [Identify national policies and opportunities to increase the physical protection during and after laying of submarine cables and to ensure their quickest and smoothest maintenance and repair operations]

RECOMMENDED CONSIDERATIONS AND MEASURES

Cable resilience measures through spatial separation (ICPC BP 3):

- Establish separation distances between cable ships and other vessels

Cable protection measures directed at fishing and anchoring risks (ICPC BP 2):

- Establish separation distances and anchorage areas
- Require/encourage use of AIS (even on smaller vessels)

Cable landing point protection measures:

- Ensure cables are trenched or adequately armoured
- Provide clear protection standards for the beach manifold
- Set requirements for the construction and location of landing stations

Cable landing station protection measures:

- Set standards for access requirements to landing stations
- Set requirements for physical security around landing stations and beach manifolds

RELATED CONSIDERATIONS AND MEASURES

Supporting legal/regulatory regime (in ii, below):

- Ensure that laws, regulations and directives are in place to facilitate laying, maintenance and repair operations and ensure cable protection
- Designate submarine cables and related components as critical infrastructure

Supporting law enforcement (in ii, below):

- Acquire monitoring technology
- Ensure the training and capacity of maritime security professionals

Supporting coordination and communication (in iii, below):

- Ensure charts are up to date and communicated
- Ensure all stakeholders are consulted in spatial planning, landing points, etc.
- Ensure risk and incident data is shared

8. LEGAL AND REGULATORY MEASURES

[This section is to outline the legal frameworks applicable to submarine cable resilience and protection. It should include current laws and regulations and identified needs for amendment and reform, including to ensure laws can be properly enforced. It is recommended that UNCLOS obligations are implemented. Refer to any legal requirements to implement measures]

i. International Legal Framework

- a. [Identify which of the relevant international legal instruments has adopted and the dates of signature and ratification]
- b. [Identify any incorporation of the provisions of the international legal instruments into national law]

RECOMMENDED CONSIDERATIONS AND MEASURES

Domestic cable protection laws (ICPC BP 5; UNCLOS Art.113; A/RES/73/124 para 171):

- Adopt cable protection laws implementing UNCLOS Art.113 with substantial penalties
- Consider also: 1884 Submarine Cable Convention, IMO Collision Regulations if applicable

ii. Domestic Legal Considerations

- a. [Identify existing legislation, any necessary amendments to it, and any additional legislation that is needed]
- b. [Identify existing regulations, any necessary amendments to them, and any additional regulations that are needed]
- c. [Identify existing directives, any necessary amendments to them, and any additional directives that are needed]
- d. [Identify all relevant permitting procedures and points of contact, and any challenges such processes may pose to the protection or speedy repair of cables]

RECOMMENDED CONSIDERATIONS AND MEASURES

Domestic cable protection laws (ICPC BP 5; UNCLOS Art.113; A/RES/73/124 para 171):

- Adopt cable protection laws implementing UNCLOS Art.113 with substantial penalties
- Adopt cable protection laws in territorial waters with substantial penalties

Cable protection measures directed at fishing and anchoring risks (ICPC BP 2):

- Establish laws or regulations that punishes anchoring outside of anchorage areas, not using AIS

Critical infrastructure designation (ICPC BP 14)

- Designate submarine cables and landing sites as critical infrastructure

Inter-industry consultations (ICPC BP 6):

- Adopt regulatory frameworks that require consultations between submarine cable operators and other marine activity users

Route landing optimization and geographic diversity (ICPC BP 8):

- Adopt regulatory frameworks that to optimize routes and landing including geographic diversity (note risks of permitting, maritime protected zones, spatial planning)

Permitting for installation and repair (ICPC BP 9):

- Ensure permit requirements accord with international law, are clear and precise, promote diversity of routes and landings.

Cabotage and crew restrictions (ICPC BP 10):

- Refrain from applying cabotage and crew restrictions on vessels installing and repairing submarine cables

Port entry requirements (ICPC BP 11):

- Establish annual pre-clearance procedures for cable ships and crew operating within territorial waters and not requiring port entry for those operating outside of territorial waters

Customs duties, taxes and fees (ICPC BP 12):

- Refrain from imposing customs duties, taxes, and fees on installation activities beyond the limits of the territorial sea, on submarine cable equipment and cable ship conducting repairs

iii. Regional Legal Considerations

- a. [Identify any Bilateral and regional agreements relating to submarine cables, marine areas, and/or the marine environment]
- b. [Identify any regional agreements which may facilitate or impede national implementation]
- c. [Identify any distinctive legal features among the countries that are connected to the same cables as that may impede or complicate 's own submarine cable protection]

iv. Law Enforcement

- a. [Identify the principles of authority and jurisdiction under national law for maritime law enforcement agencies concerning submarine cable protection noting rules on the use of force in protecting of submarine cables under national law]
- b. [Identify training requirements for law enforcement personnel, prosecutors and judges concerning submarine cable legislation, regulation or directives and the enforcement of them]

RECOMMENDED CONSIDERATIONS AND MEASURES

Domestic cable protection laws (ICPC BP 5):

- Ensure law enforcers are trained and equipped to enforce the laws

Cable protection measures directed at fishing and anchoring risks (ICPC BP 2):

- Require/encourage use of AIS even on smaller vessels
- Ensure law enforcers can deter and enforce regulations/practice/law

9. COMMUNICATION AND COOPERATIVE MEASURES

[This section is to outline the agreed mechanisms or practices for cooperative responses to submarine cables including government inter-agency mechanisms and establishing a single point of contact. It also establishes mechanisms for cooperation with other key stakeholder including the private sector cable operators and maintainers and the fishing and shipping industry.]

i. Points of Contact(s)

- a. [National Point of Contact] will be the national point of contact for the NSCPC and will ensure that there is some form of response available at all times.
- b. [Consider adding also a Lead Technical Agency]
- c. [Consider adding also a Lead Operational Agency]

ii. Interagency Mechanism

- a. Given the range of stakeholders who have responsibilities that touch on the protection of submarine cables, [...] hereby establishes a National Submarine Cable Protection Committee (NSCPC). This interagency mechanism aims to offer repeatable, documentable processes for addressing the range of concerns and considerations regarding the protection of submarine cables connected to [...].
- b. [Lead Agency] will be the lead agency within the NSCPC and will be responsible for convening biannual meetings of the NSCPC and calling such other meetings as required, as well as establishing and maintaining the framework and procedures for the NSCPC.

RECOMMENDED CONSIDERATIONS AND MEASURES

Interagency mechanism:

- Establish a national interagency mechanism for submarine cable coordination

Single point of contact (ICPC BP 7):

- Establish a national single point of contact for all submarine cable matters

iii. Public-Private Cooperation

a. It is vitally important that there be close contact between the government and the private sector to ensure rapid response in the event of a fault or other incident regarding submarine cables. To this end, the NSPC will hold an annual public-private meeting that will involve all relevant Agencies and all relevant Industry to discuss mechanisms for cooperation and any existing or emerging issues that need to be addressed.

RECOMMENDED CONSIDERATIONS AND MEASURES

Sharing of risk and incident data (ICPC BP 15):

- Establish mechanisms for the exchange of incident data and threat information with stakeholders

Cable protection through ensuring charts are updated and communicated (ICPC BP 2,3,4):

- Establish a process to update charts in near-real-time, conforming to Resolution 4/1967

Inter-industry consultations (ICPC BP 6):

- Ensure cable operators are stakeholders in spatial planning and policy-making
- Ensure other marine activities with installations (oil and gas) are required to coordinate with submarine cable operators.

Cable protection measures directed at fishing and anchoring risks (ICPC BP 2):

- Distribute cable awareness charts
- Disseminate local Notices on Mariner
- Establish fishing cable-committees

iv. Regional Cooperation

a. [Identify existing cooperative mechanisms that could add submarine cable protection to their priorities, particularly maritime security cooperation regimes]

b. [Identify any bilateral or regional approaches that would help ensure redundancy and national resilience]

v. Diplomatic Considerations

- a. [Specify the mechanism for international information sharing regarding submarine cables]
- b. [State how is furthering relevant UN resolutions that mention submarine cables]

RECOMMENDED CONSIDERATIONS AND MEASURES

Promotion of the submarine cables issue:

- Encourage government statements that promote the importance of submarine cables at the international level

Maritime boundary disputes (ICPC BP 13):

- Ensure the installation and repair of cables is not impeded by maritime boundary disputes

Cable protection in the high-seas (ICPC BP 16,);

- Support recognition and protection of submarine cables in high-seas regulations related to biodiversity and seabed exploration in international fora.

ANNEX I

NORMATIVE DOCUMENTS AND REFERENCES

- Convention for the Protection of Submarine Cables, as amended by the 1886 Declaration on the Protection of Submarine Cables and the 1887 Protocol on the Protection of Submarine Cables [1884]
- Geneva Convention on the High Seas [1958]
- Geneva Convention on the Continental Shelf [1958]
- International Regulations for Preventing Collisions at Sea [1972]
- United Nations Convention on the Law of the Sea [1982]
- UN General Assembly Resolution A/RES/73/124, Oceans and the law of the sea [2018]
- International Hydrographic Organization Resolution 4/1967, Submaire Cables [amended 2017]
- UNODC Summary of Extant International Laws Relevant to Submarine Cable Protection [2019]
- UNODC Maritime Crime: A Manual for Criminal Justice Practitioners Ed. 3 [2020]
- ICPC Best Practices on the Development and Protection of Submarine Cables (Draft) [2020]
- Brunett, Beckman, Davenport, “Submarine Cables: The Handbook of Law and Policy” [2013]



If you would like to know more about what the UNODC is doing to support states in combating maritime crime:

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