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# ICPC Recommendation

## Recommendation No. 6

### Recommended Actions For Effective Cable Protection (Post Installation)

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**Note:** Issue status suffix 'A' relates to minor format changes, not content.

## Contact for Enquiries and Proposed Changes

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## **1. INFORMATION TO THE FISHING COMMUNITY**

### **1.1 Free Distribution of Cable Warning Charts**

Cable Warning Charts show very clearly the position of Submarine Cables and the boundaries of Cable Protection Areas (where existing). They shall also provide some information on how to contact the Cable Maintenance Authorities for any clarification or additional information.

It is essential that updated copies of Cable Warning Charts be provided to the Fishing Authorities and to the Owners / Captains of the most powerful fishing vessels (in particular trawlers) operating in the area, in order to ensure that they are aware of the cables' positions and of any Cable Protection Areas or fishing / anchoring restricted areas. This awareness reduces the likelihood of a cable being fouled by a fishing vessel and, in case that still occurs, may be a decisive factor to obtain a compensation for the cable damage.

A prerequisite to this objective is the availability of updated Cable Warning Charts. These charts may be produced by the local Hydrographic or Oceanographic Institutes or by commercial organisations. The first tasks of the Cable Maintenance Authorities are to:

- a) Provide such organisations with detailed, updated Route Position Lists (RPLs) of each cable.
- b) Request (and, if necessary, fund) the publication of updated charts whenever new cables are installed or existing cables are re-laid with a significantly different route due to maintenance / repair operations.

### **1.2 Free Distribution of ICPC Fishing Booklet**

The fishing booklet produced by the ICPC, called "*Fishing and Submarine Cables - Working Together*", is intended to explain to the fishing community the importance of submarine cables and the hazards which may be caused by the fishing gear used.

It is therefore equally important to provide copies of this booklet to the Fishing Authorities, and to the Owners / Captains of at least the major fishing vessels.

*NB: Soft copies of the fishing booklet are available from the Secretary on request.*

### **1.3 Free Distribution of Video Material**

The ICPC has produced a video called "*Fishing and Submarine Cables - Sharing the Seabed*" which highlights the problems and dangers caused by the presence of submarine cables in fishing grounds and the importance of working together to minimise the risks and hazards to both parties. Copies of this video shall be provided, free of charge, to Fishing Authorities, Fishing Schools, and to the Owners/Captains of at least the major fishing vessels.

Other videos with a similar theme may be available from individual submarine cable operators.

#### **1.4 Participation In Fishing Exhibitions**

Fishing Exhibitions usually attract representatives of all official and commercial fishing entities, as well as many fishing Captains, vessel owners, and mariners. These exhibitions present an excellent opportunity to:

- a) Advise them of any new cables being installed
- b) Reinforce the importance of submarine cables and the need to protect them.
- c) Distribute the material referred to under 1.1, 1.2 and 1.3 above.
- d) Establish / develop personal contacts with fishing entities and answer to any questions they may have.

It is therefore recommended that Cable Maintenance Authorities be represented, if possible with attractive stands, in the main fishing exhibitions.

#### **1.5 Teaching Future Fishermen About Submarine Cables**

Most fishermen start working without ever hearing about submarine cables, let alone knowing how to avoid fouling them.

A practical way to create awareness is to introduce a tutorial module about submarine cables in the programme of the Fishing Schools and other relevant training establishments.

Such a module shall address both the importance of submarine cables and the hazards that may be caused by fishing or other marine activity and how to avoid them. As a very minimum, this would require one full day or preferably two or more sessions.

It is therefore recommended that Cable Maintenance Authorities contact the relevant training establishments in their country in order to establish the inclusion of such module in their programs. This may require that, at least in the first years, the instructor and the teaching material be provided directly by the Cable Maintenance Authorities.

The ICPC video, the fishing booklet and relevant Hydrographic charts that identify the location of submarine cables shall be made freely available to the training establishments.

#### **1.6 Direct Contact With Fishermen And Fishing Authorities**

In addition to the fishing exhibitions and other sporadic opportunities, regular personal contacts with fishermen and fishing authorities to remind them about submarine cables are encouraged and shall be maintained.

This task could be for example be delegated to Cable Station Managers, who are physically close to the local fishing community and shall have the best possible relationship with them.

### **1.7 Compensation For Lost Gear**

National and international legislation may require Maintenance Authorities to compensate fishermen for fishing gear sacrificed in order to avoid damaging a submarine cable and thereby guaranteeing its integrity.

## **2. INFORMATION TO MARINE AUTHORITIES**

### **2.1 Military Authorities**

Relevant Military Authorities must be kept informed about submarine cable areas for various reasons:

- a) To ensure that their vessels do not damage the cables by anchoring.
- b) To ensure that potentially dangerous submarine activities, such as submarine explosions / firing etc. are not undertaken in submarine cable areas.
- c) To request, whenever necessary, their immediate intervention to clear from the cable area any ship violating the local restrictions (e.g. trawling in a prohibited area or causing difficulties to a cable laying or repair operation), and to enforce any applicable International/Domestic cable laws.
- d) To ensure that new telecommunications cable systems do not impact on existing or planned military cables.

### **2.2 Commercial Entities**

Commercial Entities, such as Offshore Operators, Pipeline Owners and the like, must be informed about submarine cables so that appropriate ICPC recommendations can be followed when planning their seabed activities or structures.

This is an issue of mutual interest because Cable Maintenance Authorities must also take into account the existing or planned industrial seabed structures when planning new cable routes.

### **2.3 Port Authorities**

Liaison with Port Authorities is essential in the light of a growing increase in cable faults as a result of damage from ship anchors.

Port Authorities regulate anchoring areas, maritime traffic corridors and ship standby areas, which must not coincide with cable corridors. The same applies to harbour development projects, either industrial or recreational (marinas). They must therefore be kept informed about the location of submarine cables.

### **2.4 Cable Maintenance Authorities**

It is essential to ensure regular exchange of information among all Cable Maintenance Authorities within each area, so that installation and repair operations

do not constitute a threat to existing cables, and that ICPC Recommendation No. 2, Recommended Cable Routing and Reporting Criteria, is observed.

## **2.5 Hydrographic Offices**

It is essential that local Hydrographic Offices be informed of new cable installations and the status of existing cables for the purpose of updating navigation charts.

# **3. INFORMATION TO TERRESTRIAL AUTHORITIES**

## **3.1 Local Authorities**

Relevant local governmental / administrative Authorities shall be kept informed on the routes of land cables and on the location of beach infrastructures in order to protect such cables and infrastructure against potential damage caused by future road / housing / industrial construction works.

It is very important to obtain a formal assurance from those Authorities that no works will be authorised in the vicinity of land cable routes without confirmation of their position by the Cable Maintenance Authority and that, whenever necessary, the procedures for the execution of the works be co-ordinated and agreed with the Cable Maintenance Authority. The implementation of cable easements (wayleaves) may be necessary to effect this level of protection.

## **3.2 Environmental Authorities**

Relevant Environmental Authorities shall be consulted prior to any cable installation activity. Once the cable is installed, there may not be a frequent need to contact them. However, it is recommended that they be informed regularly on the land cable infrastructures, as they will necessarily be involved in approving any construction project in the area and may thus contribute toward avoiding additional risks to the existing cables.

# **4. LEGAL ACTION**

## **4.1 Development of National Legislation on Cable Protection**

Legislation could help to reduce the risk of cable damage by:

- a) Establishing a corridor in which other marine activities may be restricted.
- b) Setting a legal framework that entitles the Cable Maintenance Authorities to claim for compensation in the case of cable damage.
- c) Establishing fines or penalties for damage to cables arising from wilful misconduct and/or culpable negligence.

Individual ICPC members may provide assistance with examples of their National regulations which have been introduced to enhance the level of cable protection.

## **4.2 Establishment of Cable Protection Areas**

Cable Protection Areas are typically offshore sectors or corridors, covering part of the route of one or more submarine cables, where some fishing and anchoring restrictions apply. This protects the cables by minimising the variety and intensity of human activities potentially aggressive to the cable.

However, it must be stressed that they exist only where the relevant Cable Maintenance Authority has (i) taken the initiative of requesting it, and (ii) been successful in such application. This normally requires a long and complex negotiation process with the local Authorities and seabed users who may be affected by the establishment of Cable Protection Areas.

Cable Protection Areas shall be marked on Cable Warning Charts and in all navigation charts. It is sometimes required by the Authorities to deploy visual markers to identify Protection Area boundaries.

## **5. MONITORING CABLE CORRIDORS**

### **5.1 Electronic Monitoring of Fishing Vessels**

#### **5.1.1 Radar**

In areas where a cable station has a clear view of the landing and is in close proximity to the submerged portion of the cable, electronic monitoring of fishing vessels is an effective method of cable protection.

In this case a radar mast may be erected at the cable station. Through co-ordination with the radar manufacturer and the installer of the submarine cable the location of the submarine cable can be plotted on the display of the radar. When a vessel ventures to within a buffer zone around of the plotted position of the cable, the radar shall be programmed to sound an audible alarm. Cable station personnel familiar with identifying types of fishing vessels shall investigate via binoculars or spotting scope to determine if the vessel in question is a threat to the submarine cable. The vessel shall be hailed on VHF or SSB radio and informed of the location of the cable and its proximity to it. Any suggested or required actions or warnings (dependent upon local laws) shall be relayed to the vessel as well. In the event that the vessel does not heed warnings, a log shall be kept in the event that the cable is broken so that proof of notification can be provided.

#### **5.1.2 Vessel Monitoring Systems (VMS)**

An increasing number of governments are requiring fishing vessels to be fitted with a Vessel Monitoring System (VMS) in order to ensure fishing quotas are observed. These VMS systems interface with the vessel's onboard GPS system and regularly send back information on the fishing vessel's position to the fishing authority's central monitoring computer. Maintenance Authorities may be able to obtain this information, by way of court order, if a particular fishing vessel is suspected of damaging a submarine cable system.

## **5.2 Air Patrol**

Air patrol is an effective means of cable protection. It notifies fishing vessels of the location of the submarine cable. In addition, emergency callout of an air patrol in the event of a cable break can catch the responsible parties and send a message to the community that cable breaks will not be condoned or tolerated.

Air patrols are typically flown throughout the year. However, in areas where fishing vessels are concentrated over cable grounds during a certain season, the flights may be concentrated into that season. Randomising the day of the week and time of the day of the flights is recommended. In this manner fishermen do not become comfortable fishing over a cable all week except during the regular flight. Fishing vessels spotted by the air patrol are hailed on VHF radio and informed of that they are in the vicinity of a submarine cable. Additionally, leaflets can be dropped indicating the location of the cable. Identifying numbers and names can be crossed referenced later to determine if the fishing vessels have been contacted during port visits or sent cable protection charts or if additional notification might be required.

Air patrols shall be available on a 24-hour call-out basis in the event of a cable break. Modern night vision and image stabilising optics can enable identification of possible cable breakers even at night. Identifying a cable breaker and collecting damages from them sends a strong message throughout the fishing community.

## **5.3 Sea Patrol**

Sea patrol is an effective means of cable protection as it allows the direct notification of fishing vessels of the location of the submarine cable. In addition, emergency callout of a sea patrol vessel in the event of a cable break can catch the responsible parties and send a message to the community that cable breaks will not be condoned or tolerated.

Sea patrols are typically undertaken throughout the year. However, in areas where fishing vessels are concentrated over cable grounds during a certain season, the patrols may be concentrated into that season. Randomising the day of the week and time of the day of the patrols is recommended in order to ensure the fishermen cannot predict when the patrol will occur. Fishing vessels identified by the sea patrol to be near the location of submarine cables are hailed on VHF radio and informed of that they are in the vicinity of a submarine cable. Additionally, cable warning charts may be passed to the fishing vessel indicating the location of the cable. By recording the fishing vessel's identifying number and name, the Cable Maintenance Authority can later cross reference the information to determine if the fishing vessels have been contacted previously during port visits or previously sent cable protection charts.

Sea patrols shall be available on a 24-hour call out basis in the event of a cable break. Modern night vision and image stabilising optics can enable identification of possible offenders even at night.

#### **5.4 Terrestrial Patrol**

All actions for the protection of the submerged plant referred to above need be complemented with an effective monitoring of the land cable route in order to ensure that the land cable suffers no aggression.

For this purpose, Cable Station Managers shall establish a routine, preferably daily, consisting of a visual observation of all of the land cable route to confirm that no construction work is being undertaken in the vicinity of the cable. Sometimes, this can be accomplished simply by delegating somebody from the Cable Station staff to follow the land cable route when driving to/from the Station, to observe it carefully and report any potentially dangerous activity.

Whenever any work is authorised in the vicinity of the cable, the only way to minimise an accidental aggression to the cable is for the responsible Cable Maintenance Authority to have a representative familiar with the cable location permanently present on the work site to advise / remind workers on the cable position. If possible, such inspector shall have power to order stopping the works (this obviously requires previous agreement with the local Authorities who authorised the works).

### **6. REFERENCES**

<b>Document Number</b>	<b>Title</b>
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### **7. DEFINITIONS**

The following words, acronyms and abbreviations are referred to in this document.

<b>Term</b>	<b>Definition</b>
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### **8. ATTACHMENTS**

<b>Document Number</b>	<b>Title</b>
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### **9. ACKNOWLEDGEMENTS**

The Executive Committee wish to place on record their appreciation of Mr. José Herdade of PT Comunicações for originally identifying the need for this Recommendation and providing the first draft.