Paper for Consideration by NIPWG

NIPWG Development of Text Box for Submarine Cables

Submitted by:	France (SHOM), Italy (IHI), and the United States (NGA)
Executive Summary:	Provide information concerning the hazards of submarine cables that can be accurately and concisely displayed on an ECDIS
Related Documents:	International Hydrographic Organization/International Cable Protection Committee Memorandum of Understanding (MoU) signed on 18 April 2016
Related Projects:	None

Introduction / Background

A Memorandum of Understanding (MoU) has been signed between the International Hydrographic Organization (IHO) and the International Cable Protection Committee (ICPC). The MoU specifies the scope of cooperation between the IHO and the ICPC. The MoU merges the IHO's interest in the uniformity of nautical charts, charting standards, safety at sea, and protection of the marine environment with the ICPC's interest in protecting submarine cable infrastructure and ensuring these protective measures have a minimal impact on the marine environment.

Analysis/Discussion

Increased cooperation between the IHO and the ICPC would help facilitate the development of standards, formats, policies, and procedures in agreed-upon eight areas of concern. A NIPWG-related area of concern is:

> "The development of standard information in nautical publications drawing the mariners' attention to the necessity to protect cables against damage caused by ship operations."

NIPWG-2 discussed the procedure to provide harmonized information on submarine cable protection in nautical publications. NIPWG-2 Action Item 2-20 assigned IHI, SHOM, and NGA to develop a text block for Submarine Cable Protection Information to comply with the MoU with the ICPC.

The following Hydrographic Office sources were consulted to see what language has been used in developing Submarine Cable Protection Information in nautical publications regarding the hazards of submarine cables:

1. Australia—Annual Notice No. 14 of 2015.
2. Belgium—Annual Notice No. 1/30 of 2016.
3. Italy—Annual Notice No. 8 of 2016.
4. Japan—Pub. 304 (Part 1, Chapter 7, Page 21).
5. South Africa—Annual Notice No. 23 of 2015.
6. United Kingdom—BA NP 100, Mariners Handbook (paragraph 9.43).
7. United States (NGA)—Special Paragraph No. 13 from Notice to Mariners 1/2016.
8. United States (NOS)—Coast Pilot 1 (Chapter 1, paragraphs 1.20 to 1.25).

The submarine cable hazard information from each of the above sources was analysed to determine what topics were contained within each source. Similar topics were grouped together and a numerical count of each topic was generated to determine the count of each topic across the entire body of source information. The results are given in the table titled **Distribution of Submarine Cable Topics Extracted from Listed Nautical Publications**. The results were then used to write the Text Box for Submarine Cable Protection Information.

Annex A--Sources used to analyze the current written descriptions regarding the hazards of submarine cables.
Annex B --Table titled **Distribution of Submarine Cable Topics Extracted from Listed Nautical Publications.**

Conclusions

After analysis of the information in Annex A and Annex B, the following Submarine Cable Protection Information is proposed:

"Certain submarine cables are used for telecommunications functions while others carry high voltage. Damaging or severing a submarine cable, whether a telecommunications cable or a power cable, could rate as a national disaster and very severe criminal penalties may apply. Electrocution, with injury or loss of life, could occur if power cables are broached. Telecommunication cable damage may result in loss of voice, data transfer, or internet connectivity.

In view of the serious consequences resulting from damage to submarine cables, vessel operators should take special care when anchoring, fishing, mining, dredging, or engaging in underwater operations near areas where these cables may exist or have been reported to exist.

Mariners are also warned that the areas where cables were originally buried may have changed and they may be exposed; extreme caution should be used when operating vessels in depths of water comparable to the vessel's draft.

Vessels fouling a submarine cable should attempt to clear without undue strain. Anchors or gear that cannot be cleared should be slipped, but no attempt should be made to cut a cable. Before any attempt to slip or cut gear from the cable is made, the cable should first be lowered to the seabed.

In inland areas or along the coast, warning signs or marker beacons are often erected to warn the mariners of the existence of submarine cables.

In order to avoid the risk of damaging submarine cables as much as possible, a 0.25-mile wide protected area[1] exists on either side of the cable. Anchoring is prohibited within this area, even when there is no specific prohibition on the chart.

Incidents involving the fouling of submarine cables should be reported immediately[2] to the appropriate authorities[3] who should be advised as to the nature of the problem and the position of the vessel."

Notes:

[1]Each hydrographic authority can set this distance to a value they feel is appropriate.

[2]Each hydrographic authority can set the reporting time to a value they feel is appropriate.

[3]The appropriate authorities can be listed here, as well as contact methods (telephone, facsimile, VHF, e-mail, internet, etc.) and required information.

Recommendations

This paper should also be submitted to the next meeting of the Nautical Charting Working Group (NCWG). The information concerning the display of Submarine Cable Protection Information is also appropriate for display on a nautical chart.

Justification and Impacts

The proposed Text Box for Submarine Cable Protection Information would meet the IHO/ICPC MoU requirement to develop a standard for the display of Submarine Cable Protection Information, whether incorporated in an ECDIS or printed on a hard copy chart.

Action Required of NIPWG

The NIPWG is invited to:

a. Note this paper.
b. Provide any comments to improve the text of the Submarine Cable Protection Information.
c. Discuss if Submarine Cable Protection Information should be included in any NIPWG Test Data Set/S-12x Product Standards and which Test Data Set/S-12x Product Standards would be appropriate.