

The International Cable Protection Committee



by
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THE international telecommunication services of the world are dependent, to a large extent, on a comprehensive network of submarine cables linking countries and continents. The first recorded submarine cable was laid in 1851 and carried one telegraph circuit between England and France. Since that time, thousands of miles of cable, with gradually increasing capacity, have been laid in the sea all over the world. Modern submarine cable systems provide high-quality transmission, over long distances, with up to 5000 telephone circuits (using a 3 kHz bandwidth) on a single cable.

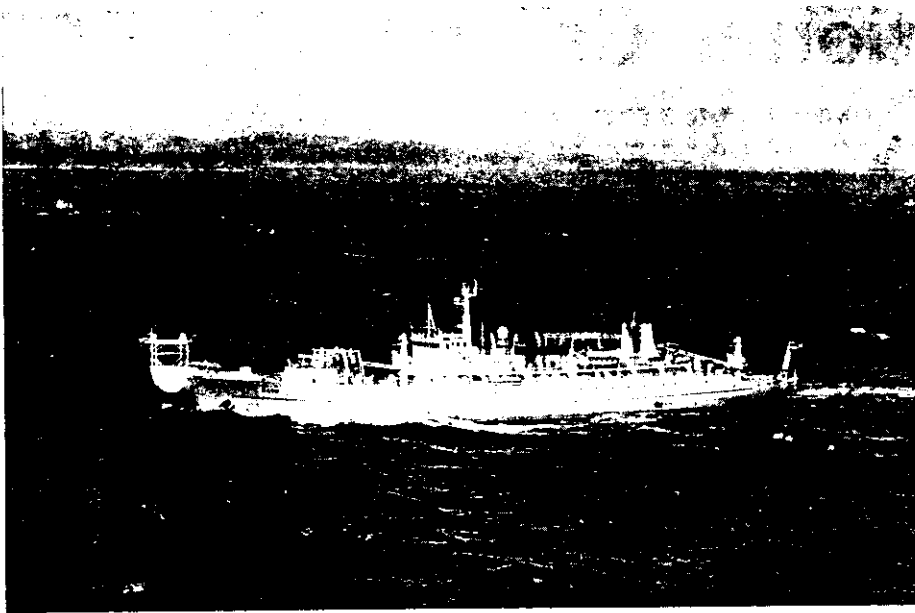
Every effort is made during the design and construction of the cable systems to ensure a high standard of technical reliability. The design target is a fault-free life of 25 years for both the cable and the repeaters with the associated electronic components. This target has been achieved and in many cases exceeded. However, ever since the first submarine cable was laid they have been subject to damage by other users of the sea. The first submarine cable, in fact, only survived one day before a fisherman

hooked up what he took to be a new form of seaweed with a solid copper stem. To repair the cables when they have been damaged (or, more rarely because of a technical fault) the cable owners maintain (either themselves or by agreement with a cables-ship owner) a fleet of cables-ships stationed at strategic points around the world. These ships, which must be ready to sail at all times, represent a considerable expense for the cable owners.

Nearly a century ago, in 1884, representatives of 27 maritime governments met in Paris with "the desire to secure the maintenance of telegraphic communication". The outcome was the International Convention of 14 March 1884 for the protection of submarine cables. The Convention contained two major principles. Firstly—it would be regarded as a punishable offence to deliberately or wilfully break or damage a submarine cable. Secondly—if fishing gear or an anchor were to be sacrificed in order to avoid damaging a submarine cable the owner of that cable should indemnify the owner of the fishing gear or anchor. Seventy-four years later,

at Geneva in 1958, these two provisions were endorsed by the Convention of the High Seas.

In 1956 the first transoceanic telephone cable system, TAT-1, came into service across the Atlantic Ocean. Like its predecessors, the telegraph cables, TAT-1 was not immune from the hazards common to all submarine cables. It was recognized that the principal menace to submarine cables was the "otter board or trawl door" used by fishermen to hold the net open as it traverses the seabed. More recently, the "beam trawl" has come into use where a long and heavy beam is used across the bottom of the net to hold it open. At the same time the trawlers have become larger and more powerful and in consequence able to exert a greater pull when their fishing gear is caught in the cable. The design of a modern cable system includes a detailed study and survey of the route the cable will take across the ocean endeavouring to avoid, as far as possible, known fishing areas. However, in the way of all things, fishing patterns and activities change and cables routed through an area



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The cableship "KDD Maru"

known to be free from fishing activity suddenly find that the fishing has moved towards them. There are, of course, many other hazards amongst which might be mentioned ships' anchors and dumping of toxic wastes, particularly atomic waste material which, at present, is dumped in the Atlantic.

In 1957 the owners of the Atlantic cable system received advice that the United Nations Food and Agriculture Organization (FAO) was to sponsor a fishing gear conference in Hamburg, the first to be held anywhere in the world. It was considered that this conference might present an opportunity of obtaining co-operation from the fishing community in reducing the hazards to cables. Understandably, the fishing gear experts were more concerned with problems in their own industry and the representations from the cable owners did not achieve the desired result.

Recognizing the pressing need to take some positive action to protect cables, which was now becoming more urgent with the development of sophisticated and high-capacity cables, the six major submarine cable owners of the day met at the London Office of Cable and Wireless Limited on 22 May 1958. They set themselves the initial task of preparing special charts for trawlermen showing the position of cables, on which was to be a prominent reference to the relevant provisions of the Paris Convention of 1884. The committee adopted the name Cable Damage Committee which, in 1967, was renamed the International Cable Protection Committee (ICPC). Most of the other major cable owners of the world were quick to

respond to advice of this new entity and it was not long before they were brought into membership. There are now 22 members in 16 countries on five continents:

- Belgium
Régie des télégraphes et des téléphones
- Brazil
Empresa Brasileira de Telecomunicações SA (EMBRATEL)
- Canada
Teleglobe Canada
- Denmark
P&T Administration
The Great Northern Telegraph Company Limited
- France
P&T Administration
PQ Câbles
- Federal Republic of Germany
Deutsche Bundespost
- Italy
PTT Administration
Italcable
- Japan
Kokusai Denshin Denwa Company Limited (KDD)
- Netherlands
PTT Administration
- Norway
Televerket
- Portugal
Companhia Portuguesa Radio Marconi
- Republic of South Africa
South Atlantic Cable Company

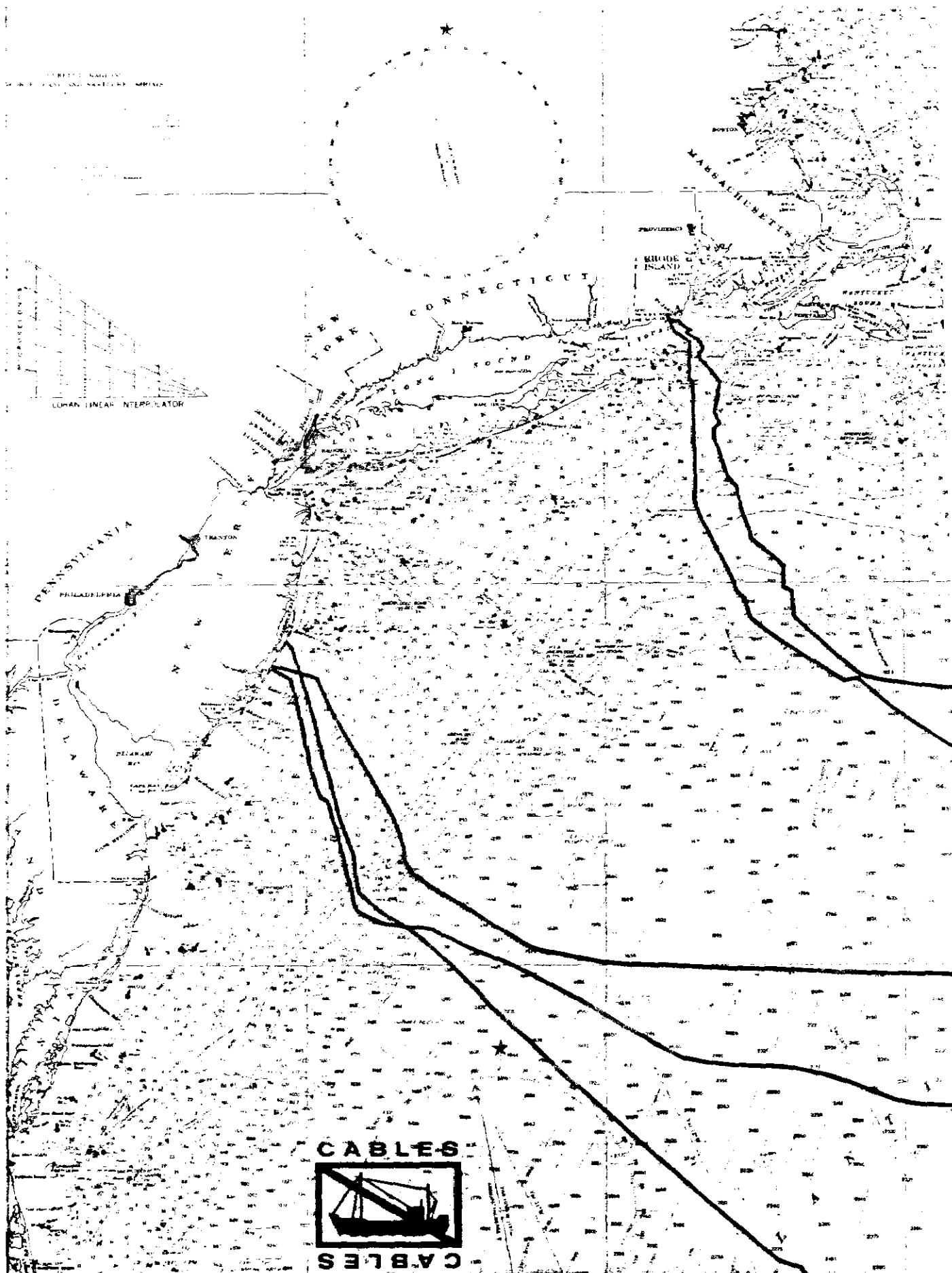
- Spain
Compañía Telefónica Nacional de España (CTNE)
- Sweden
Televerket
- United Kingdom
Post Office
Cable and Wireless Limited
ITT/Commercial Cable Company
- United States
American Telephone and Telegraph Company (AT&T)
Western Union International, Inc. (WUI)

In 1961 the first cable-warning charts appeared covering the North Sea, the European continental shelf and the Atlantic areas and were widely distributed, free of charge, to the fishing community. However, they had many shortcomings and, as required by hydrographers, were clearly marked "not to be used for navigation" which did not make them popular with mariners. Consequently, the charts were not re-issued.

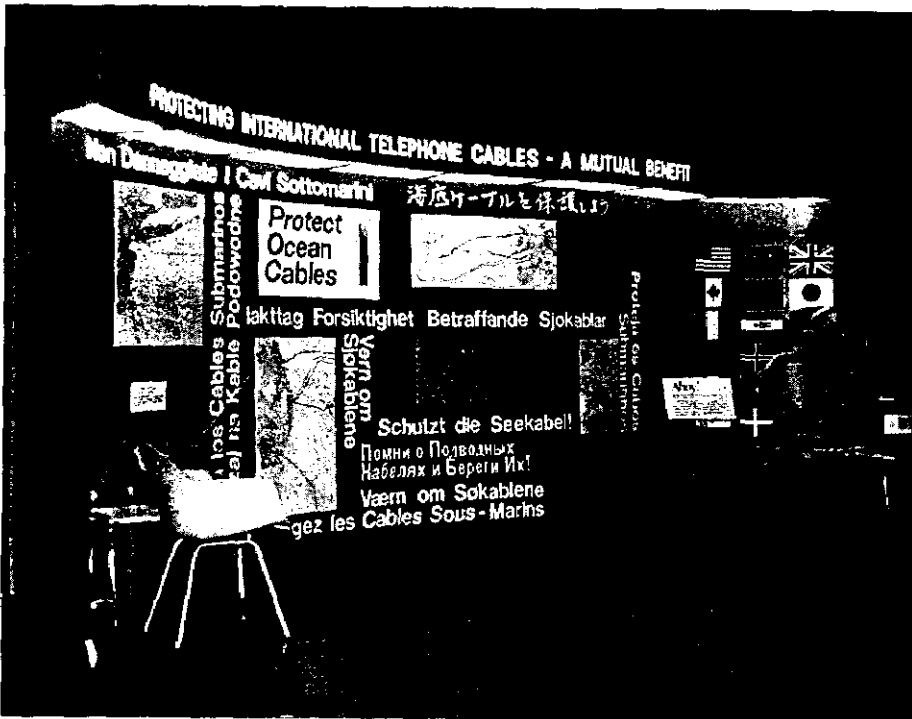
Subsequently, advice on the problems of the charting of submarine cables was sought from the International Hydrographic Bureau in Monaco who made a number of useful suggestions resulting in two major developments. In the first case, a joint booklet was prepared listing all the hydrographers in the world and the areas for which they prepared charts. This list was issued to all cable owners in membership of ICPC and to all hydrographers with a request to the cable owners to send details of their cables direct to hydrographers for charting purposes. A second booklet was also issued explaining how to prepare a cable-warning chart and giving examples.

The other major development was the preparation of special cable-warning charts for the North Sea area. Representatives of the hydrographers of Denmark, the Netherlands and the United Kingdom met the North Sea cable owners in London and a joint specification was developed for three cable-warning charts to be produced by the hydrographers. Several hundred of such charts have been issued to North Sea fishermen free of charge.

Cable-warning charts are but one means of drawing attention to the need to protect submarine cables from damage and the ICPC has had to address itself to other means of transmitting the cable protection message. Fishing exhibitions are held at frequent intervals at many of the major fishing ports of the world. The ICPC, with assistance from its members, now exhibits at the majority of fishing exhibitions



A section of cable-warning chart

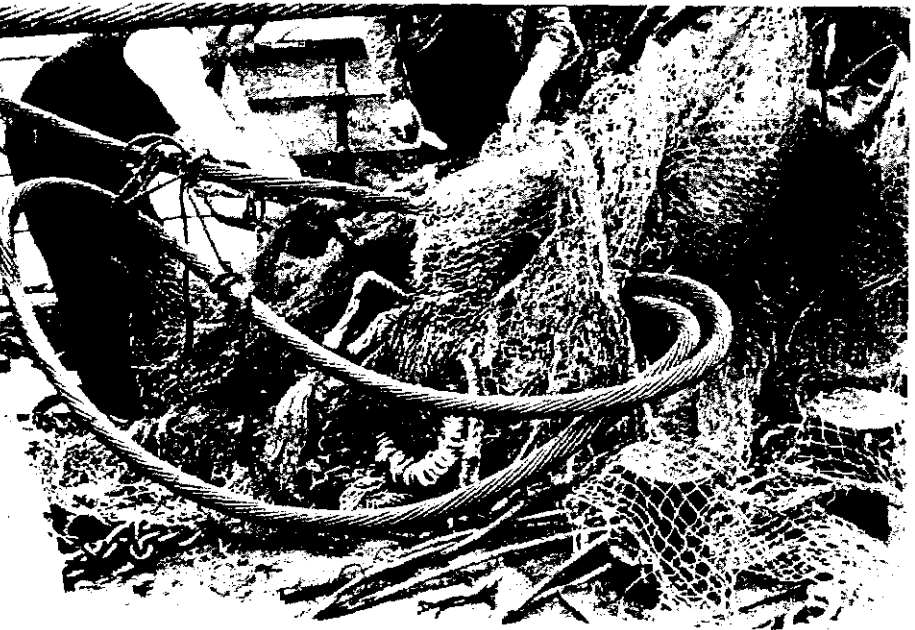


ICPC exhibition stand

around the world in places as far apart as Leningrad and Seattle. These exhibitions provide an excellent opportunity for exchanges of views and the building of mutual understanding between the fishing community and the cable owners.

Literature on cable protection measures has been provided for distribution at exhibitions, and on other occasions, in the form of leaflets. In 1971 the ICPC published a booklet outlining its major problem and how to deal with it. The booklet, entitled *Trawling and submarine*

cables, was designed to provide the fishing industry, trawler personnel and training institutes with information concerning the precautions which should be taken to avoid the fouling of submarine cables, and the action which should be taken in the event of accidental hooking. The FAO in Rome was consulted before the first edition was published and several thousand copies in no less than 12 languages were printed. In 1977 the booklet was extensively re-edited and brought up to date for the printing of the second edition. Plans are in hand to print this edition in all the



languages of countries in membership of ICPC. In the United Kingdom a well-known fishing magazine has distributed copies of the booklet to its readers.

From time to time films have been produced on various facets of the submarine cable industry. Within the framework of ICPC it was decided to pool some of the expertise and make a film that would have special appeal to fishermen. Using many of their own facilities and a stern trawler chartered for the purpose, ICPC members arranged for a film to be produced which had its premier showing at a major fishing exhibition in Spain in 1973. The film, with the title *The catch that nobody wants*, depicts the dilemma of the trawler skipper who, for want of a little care, finds his gear entangled in cable. He makes the wrong decision. The film storydramatizes the consequences and some of the hazards the crew of the cableships have to face in order to restore the cable to service. The film has gained three awards at different trade film festivals and is now available with commentaries in many languages including Chinese, Japanese and Russian.

Many claims are received by the cable owners from fishermen in respect of gear sacrificed to avoid damage to cables. Because of the various interpretations put on the Paris Convention of 1884 there are many differing schools of thought as to how these claimants should be indemnified. In an attempt to reduce the number of such claims, the cable owners have been requested that wherever possible out-of-service cables should be removed from heavily fished areas. However, it is generally recognized that the recovery of such cables is uneconomical.

An attempt has been made in this brief article to highlight the principal hazard to submarine cables and the action the cable owners have taken to reduce the risk of interruption to service arising from this cause. Such measures form a permanent facet of a cable owner's work. Much has been done in the past but there can be no doubt that there is a need to continue, and indeed increase, ICPC efforts as the future unfolds. Administrations or operating companies who are interested in becoming members of ICPC should write to the ICPC Secretariat (Mercury House, Theobalds Road, London, WC1X 8RX). The Secretariat welcomes approaches on all matters affecting the protection of submarine cables which, on an ever-increasing scale, will be used to provide high-quality telecommunication service across the oceans of the world.