CHAPTER ELEVEN

PROTECTING SUBMARINE CABLES FROM COMPETING USES

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INTRODUCTION

Nearly everyone has heard the story of the first submarine cable being pulled up by a fisherman who, thinking it was a new species of seaweed, cut a piece out and took it to a local university for study. Indeed, damage to submarine cables by human activity in the oceans has been a consistent and inevitable threat to the safety and security of submarine cables. The vulnerability of submarine cables to damage from fishing, shipping and resource exploration activities has increased over the years, propelled by the ever-expanding ability of States to find new uses for ocean resources. The purpose of this Chapter is to highlight the main causes of cable faults arising from external human aggression, to examine the various legal and policy challenges faced by States in minimizing such faults, and to discuss best practices on the protection of cables by both governments and the cable industry. Hostile or intentional actions against submarine cable infrastructure by terrorists and pirates are addressed in Chapter 12.

I. THE CAUSES OF CABLE FAULTS

External aggression is generally defined as damage to a cable caused by force or object external to the cable. It includes incidences of external human aggression (fishing gear, anchor dragging, dredging and other human activity) and natural occurrences, such as submarine earthquakes, landslides or abrasion (Chapter 10 examines damage caused to cables as a result of natural occurrences).

1 D.P.F. Chisholm, “The International Cable Protection Committee” (1979) 46(1) Telecommunications Journal 29–32.
A cable fault can take one of several forms; damage to the outer insulation which results in seawater coming into contact with the power conductor, damage to the optical fibers such that they can no longer transmit light, damage to both the power conductor and the optical fiber and, finally, a complete break in the cable.

Analysis undertaken in a 2007 study indicates that between 72–86 per cent of all cable faults are caused by external aggression.\(^2\) Eighty per cent of cable faults caused by external aggression are attributable to human activity, with fishing being responsible for more than 60 per cent of all external aggression faults.\(^3\) Figure II.1 provides a representation of the overall percentage of faults from 1960 until mid-2000 and also illustrates that the majority are caused by commercial fishing.

As indicated earlier, not all cable faults occur as a result of human activity. Faults have also been caused by various geologic processes, such as earthquakes and their resultant after-effects (tsunamis, undersea landslides, turbidity currents), abrasion of the cable on a rough seabed, and general equipment failure. Two of the more novel causes of cable failure in the past include incidents of weather observation buoys that have gone off station and become entangled in


\(^3\) Kordahi \textit{et al.}, \textit{ibid.}