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SERIES M: MAINTENANCE OF INTERNATIONAL TELEGRAPH, PHOTOTELEGRAPH AND LEASED CIRCUITS

MAINTENANCE OF THE INTERNATIONAL PUBLIC TELEPHONE NETWORK

MAINTENANCE OF MARITIME SATELLITE AND DATA TRANSMISSION SYSTEMS

Maritime systems

MAINTENANCE ORGANIZATION FOR THE MARITIME SATELLITE SERVICE

Reedition of CCITT Recommendation M.1110 published in the Blue Book, Fascicle IV.2 (1988)

NOTES

1 CCITT Recommendation M.1110 was published in Fascicle IV.2 of the *Blue Book*. This file is an extract from the *Blue Book.* While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation M.1110

MAINTENANCE ORGANIZATION FOR THE MARITIME SATELLITE SERVICE

1 General

In order to ensure satisfactory interworking between the maritime satellite network and the international public-switched telephone network, it is necessary to define the interrelationship between the maintenance organization for the maritime satellite telephone service and the maintenance organization for the international automatic and semi-automatic telephone service as defined in the Series M.700 Recommendations. The general maintenance aspects of maritime satellite systems are contained in Recommendation M.1100.

2 Maintenance organization as applicable to INMARSAT

The maintenance responsibility within a maritime satellite network is divided among the ship earth station, the coast earth station, the network coordination station, and the operations control centre.

2.1 *Ship earth station (SES)*

The ship earth station must be capable of communicating reliably with the coast earth station and may act as a sub-control station with responsibilities to the coast earth station (see Recommendation M.1100, § 6.1). As a sub-control station, it is responsible for reporting noticeable degradations in the maritime satellite circuits to the coast earth station and for reporting ship earth station problems to the manufacturer's or ship's maintenance agent.

2.2 *Coast earth station (CES)*

The coast earth station provides communication functions and has the overall coordination responsibility between the ship earth station and the international public switched telephone network, and the responsibility of reporting problems to the network coordination station and the operations control centre as required. The maintenance functions of the coast earth station are further described in draft Recommendation M.1120.

2.3 *Network coordination station (NCS)*

The network coordination station provides communication and maintenance functions within the maritime satellite system.

a) Communication functions such as:
   - transmitting the signalling channel to the ship earth stations;
   - assigning telephone channels on demand;
   - maintaining a list of busy ship earth stations.

b) Maintenance functions such as:
   - assisting in performing routine system tests;
   - monitoring the performance of coast earth stations;
   - monitoring, identifying and clearing of unauthorized transmissions.

2.4 *Operations control centre (OCC)*

The operations control centre provides administrative, operational and maintenance functions within the maritime satellite network.

a) Administrative functions such as:
   - acting as the fault report point (network);
   - preparing, controlling and disseminating system information;
   - providing a focal point for ships (or their agents, etc.), Administrations or others.

b) Routine and normal operational tasks such as:

- liaising with the various space segment suppliers;
- scheduling and coordinating type approval and commissioning of ship earth stations;
- scheduling and coordinating the bringing into service of coast earth stations and network coordination stations;
- carrying out some limited monitoring of transmission parameters;
- analyzing traffic and performance data provided by network coordination stations and coast earth stations.

c) Emergency and/or corrective actions, including as required the issue of broadcast network advisory messages to ship earth stations, in case of:

- space segment failures;
- extended network coordination stations failures;
- failures of individual coast earth stations;
- incorrect operation of ship earth stations;
- interference in the network.

3 Cooperation between the general maintenance organization (Recommendation M.710 [1]) and the maritime satellite maintenance organization

Figure 1/M.1110 illustrates the interrelationship between the general maintenance organization and the maritime satellite maintenance organization (INMARSAT).

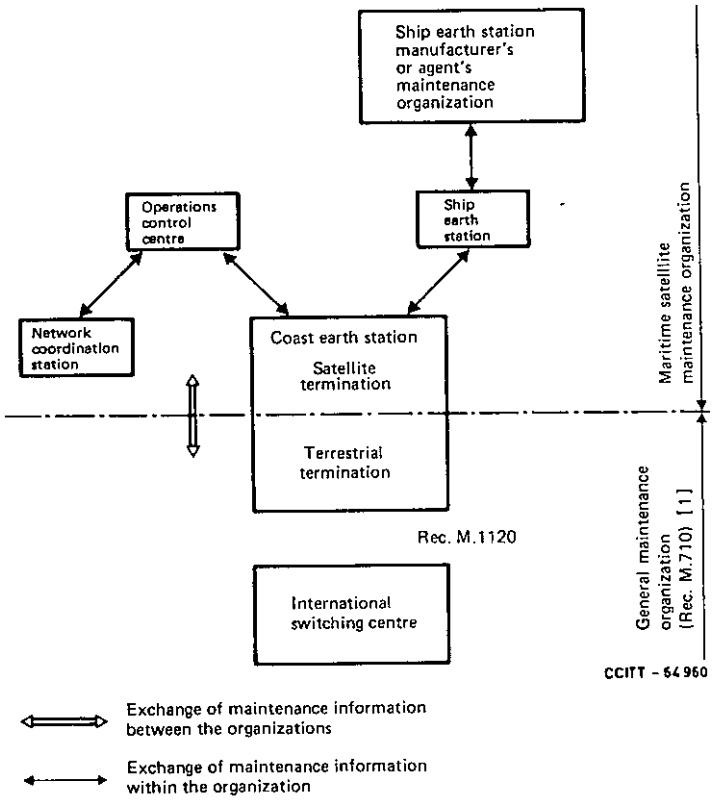

FIGURE 1/M.1110

Interrelationship between the general maintenance organization (Recommendation M.710 [1]) and the maritime satellite maintenance organization (INMARSAT)

The relationship between the coast earth station and the international switching centre is defined in Recommendation M.1120. The relationship between the elements within the maritime satellite maintenance organization is a matter for that organization.

Cooperation in the maintenance of the maritime satellite service should comprise the following elements in each organization, each of which represents a set of functions:

- fault report point (network) (see Recommendation M.716 [2]);
- network analysis point (see Recommendation M.720 [3]);
- system availability information point (see Recommendation M.721 [4]);
- network management (see Recommendation E.413 [5]);
- restoration control point (see Recommendation M.725 [6]).

References

[1] CCITT Recommendation *General maintenance organization for the international automatic and semiautomatic service*, Vol. IV, Rec. M.710.

[2] CCITT Recommendation *Fault report point (network)*, Vol. IV, Rec. M.716.

[3] CCITT Recommendation *Network analysis point*, Vol. IV, Rec. M.720.

[4] CCITT Recommendation *System availability information point*, Vol. IV, Rec. M.721.

[5] CCITT Recommendation *International network management – Planning*, Vol. II, Rec. E.413.

[6] CCITT Recommendation *Restoration control point*, Vol. IV, Rec. M.725.

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