6.2 Means should be incorporated for the protection of the equipment from excessive currents and voltages, transients and accidental reversal of power supply polarity.

6.3 If provision is made for operating the equipment from more than one source of electrical energy, arrangements for rapidly changing from one source of supply to the other should be incorporated.

7. INTERFERENCE

7.1 All steps should be taken to eliminate as far as practicable the causes of, and to suppress, electromagnetic interference between the gyro compass and other equipment on board.

7.2 Mechanical noise from all units should be so limited as not to prejudice the hearing of sounds on which the safety of the ship might depend.

7.3 Each unit of the equipment should be marked with the minimum safe distances at which it may be mounted from a standard or a steering magnetic compass.

8. DURABILITY AND RESISTANCE TO EFFECTS OF CLIMATE

The equipment should be capable of continuous operation under the conditions of vibration, humidity and change of temperature likely to be experienced in the vessel in which it is installed.

9. CONSTRUCTION AND INSTALLATION

9.1 The master compass and any repeaters used for taking visual bearings should be installed in a ship with their fore and aft datum lines parallel to the ship's fore and aft datum line to within $\pm 0.5^{\circ}$. The lubber line should be in the same vertical plane as the centre of the card of the compass and should be aligned accurately in the fore and aft direction.

9.2 Means should be provided for correcting the errors induced by speed and latitude.

9.3 An automatic alarm should be provided to indicate a major fault in the compass system.

9.4 The system should be designed to enable heading information to be provided to other navigational aids such as radar, radio direction-finder and automatic pilot.

9.5 Information should be provided to enable competent members of a ship's staff to operate and maintain the equipment efficiently.

9.6 The equipment should be provided with an indication of manufacture, type and/or number.

9.7 The equipment should be so constructed and installed that it is readily accessible for maintenance purposes.

RESOLUTION A.281(VIII)

Adopted on 20 November 1973
Agenda item 10

RECOMMENDATION ON GENERAL REQUIREMENTS FOR ELECTRONIC NAVIGATIONAL AIDS

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

BEARING IN MIND Recommendation 44 of the International Conference on Safety of Life at Sea, 1960, relating to electronic aids to navigation,

HAVING CONSIDERED the Report of the Maritime Safety Committee on its twenty-seventh session,

RESOLVES:

(a) to adopt the Recommendation concerning General Requirements for shipborne Electronic Navigational Aids;

(b) to recommend Member Governments to ensure that shipborne electronic navigational aids conform to performance standards not inferior to those shown in the Annex to this Resolution.

ANNEX

RECOMMENDATION ON PERFORMANCE STANDARDS FOR ELECTRONIC NAVIGATIONAL AIDS

GENERAL REQUIREMENTS

1. INTRODUCTION

Equipment required by Regulation 12 of Chapter V, as amended, and other electronic navigational aids, where appropriate, should comply with the following general requirements.

2. OPERATION

2.1 All controls should be of such size and location as to permit normal adjustments to be easily performed and should be easy to identify.

2.2 Fully adequate illumination should be provided to enable identification of controls and facilitate reading of displays at all times. Facilities for dimming should be provided.

3. POWER SUPPLY

3.1 Equipment should continue to operate in accordance with the requirements of the relevant recommendations in the presence of variations of the power supply normally to be expected in a vessel.

3.2 Means should be incorporated for the protection of equipment from excessive currents and voltages, transients and accidental reversal of the power supply polarity.

3.3 If provision is made for operating equipment from more than one source of electrical energy, arrangements for rapidly changing from one source of supply to the other should be incorporated.

4. DURABILITY AND RESISTANCE TO ENVIRONMENTAL CONDITIONS

Equipment should be capable of continuous operation under the conditions of sea states, vibration, humidity and change of temperature likely to be experienced in the vessel in which it is installed.

5. INTERFERENCE

5.1 All reasonable and practicable steps should be taken to eliminate the causes of, and to suppress, electromagnetic interference between the equipment concerned and other equipment on board.

5.2 Mechanical noise from all units should be so limited as not to prejudice the hearing of sounds on which the safety of the ship might depend.

5.3 Each unit of equipment normally to be installed in the vicinity of a standard or a steering magnetic compass should be clearly marked with the minimum safe distances at which it may be mounted from such compasses.

6. MISCELLANEOUS

6.1 Equipment should be so constructed and installed that it is readily accessible for inspection and maintenance purposes. As far as practicable, access to dangerous voltages within equipment should be prevented.

6.2 Information should be provided to enable competent members of a ship's staff to operate and maintain equipment efficiently.

6.3 Equipment should be provided with an external indication of manufacture, type and/or number.

6.4 Equipment should be installed in such a manner that it is capable of meeting its recommended performance standards.

RESOLUTION A.282(VIII)

Adopted on 20 November 1973
Agenda item 10

RECOMMENDATION ON THE INSTALLATION AND USE OF MANOEUVRING LIGHTS

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

TAKING INTO ACCOUNT that, according to Rule 28(c) of the International Regulations for Preventing Collisions at Sea, 1960, sound signals mentioned in that Rule may be further indicated by a light signal,

HAVING NOTED the provisions of Rule 34(b) of the new International Regulations for Preventing Collisions at Sea, 1972, and the technical specifications contained in Section 12 of Annex I thereto,

HAVING CONSIDERED the Report of the Maritime Safety Committee on its twenty-seventh session,

RESOLVES:

(a) to adopt the Recommendation, reproduced at Annex hereto, concerning the fitting and use of manoeuvring lights in accordance with the provisions of the International Regulations for Preventing Collisions at Sea, 1972,

(b) to invite Contracting Governments to report on operational experience with such manoeuvring lights, and

(c) to invite the Maritime Safety Committee to examine such reports and, if further action is required, to advise accordingly.