ANNEX 15

RESOLUTION MSC.508(105)
(adopted on 28 April 2022)

PERFORMANCE STANDARDS FOR THE RECEPTION OF MARITIME SAFETY INFORMATION AND SEARCH AND RESCUE RELATED INFORMATION BY MF (NAVTEX) AND HF

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.525(13), by which the Assembly, at its thirteenth session, adopted the *Performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships*, and resolution A.700(17), by which the Assembly, at its seventeenth session, adopted the *Performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (MSI) by HF*,

RECALLING FURTHER resolution MSC.148(77), by which it adopted, at its seventy-seventh session, the revised *Recommendation on Performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)*, as amended by resolution MSC.430(98),

RECALLING resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards for radio and navigational equipment, as well as amendments thereto, shall be performed by the Maritime Safety Committee on behalf of the Organization,

TAKING INTO ACCOUNT the amendments to the International Convention for the Safety of Life at Sea, 1974 ("the Convention"), adopted by resolution MSC.496(105),

NOTING, in particular, the carriage requirement in regulation IV/7.1.4 of the Convention for receiver(s) capable of receiving maritime safety information and search and rescue related information throughout the entire voyage in which the ship is engaged,

NOTING ALSO the success of the International NAVTEX and HF-MSI service in the promulgation of maritime safety information,

NOTING FURTHER the enhanced storage, processing and display possibilities offered by recent technical advances,

RECOGNIZING that further growth in information promulgated to ships will be constrained by the capacity of the International NAVTEX service and the increasing importance of National NAVTEX services, and that HF NBDP broadcasts may be used in the Global Maritime Distress and Safety System (GMDSS),

RECOGNIZING ALSO the need to revise the performance standards adopted by resolutions MSC.148(77), as amended, and A.700(17),

HAVING CONSIDERED, at its 105th session, the recommendation made by the Sub-Committee on Navigation, Communications and Search and Rescue at its eighth session,

1 ADOPTS the revised *Performance standards for the reception of maritime safety information and search and rescue related information by MF (NAVTEX) and HF*, set out in the annex to the present resolution;

2 RECOMMENDS Governments to ensure that NAVTEX receiver equipment:

.1 if installed on or after 1 January 2024, conforms to performance standards not inferior to those specified in the annex to the present resolution;

.2 if installed on or after 1 July 2019, but before 1 January 2024, conforms to performance standards not inferior to those specified in the annex to resolution MSC.148(77), as amended by resolution MSC.430(98);

.3 if installed on or after 1 July 2005, but before 1 July 2019, conforms to performance standards not inferior to those specified in the annex to resolution MSC.148(77); and

.4 if installed before 1 July 2005, conforms to performance standards not inferior to those specified in the annex to resolution A.525(13);

3 ALSO RECOMMENDS that equipment for the reception of NBDP broadcasts of navigational and meteorological warnings and urgent information to ships by HF:

.1 if installed on or after 1 January 2024, conforms to performance standards not inferior to those specified in the annex to the present resolution; and

.2 if installed before 1 January 2024, conforms to performance standards not inferior to those specified in the annex to resolution A.700(17);

4 FURTHER RECOMMENDS Governments to allow ships carrying MF/HF radio installations in accordance with resolution MSC.512(105) to use such equipment in lieu of equipment complying with the standard specified in the annex to the present resolution.

ANNEX

PERFORMANCE STANDARDS FOR THE RECEPTION OF MARITIME SAFETY INFORMATION AND SEARCH AND RESCUE RELATED INFORMATION BY MF (NAVTEX) AND HF

1 INTRODUCTION

1.1 The equipment receives maritime safety information (MSI) and search and rescue (SAR) related information transmitted by NAVTEX services and HF, and may be used to meet the requirements of SOLAS regulation IV/7.1.4.

1.2 In addition to meeting the requirements of the Radio Regulations, the NAVTEX receiver should comply with Recommendation ITU-R M.540 and the receiver for HF-MSI should comply with Recommendation ITU-R M.688.

1.3 The equipment should comply also with the requirements set out in resolutions A.694(17) and MSC.191(79), as amended, and with the following performance standards.

2 GENERAL

The equipment should comprise radio receivers of at least one frequency band, a signal processor and either:

.1 an integrated printing device; or

.2 a dedicated display device,[1] printer output port and a non-volatile message memory; or

.3 a connection to an integrated navigation system and a non-volatile message memory.

3 CONTROLS AND INDICATORS

Details of the coverage areas and message categories which have been excluded by the operator from reception and/or display should be readily available.

4 RECEIVERS

4.1 Receiver for NAVTEX

4.1.1 The equipment should contain one receiver operating on the frequency prescribed by the Radio Regulations for the International NAVTEX System. The equipment should contain a second receiver capable of working at the same time as the first one on at least two other frequencies recognized for the transmission of NAVTEX information. The first receiver should have priority in the display or printing of received information. Printing or displaying of messages from one receiver should not prevent reception by the other receiver.

4.1.2 The receiver sensitivity should be such that for a source with an e.m.f. of 2μV in series with a non-reactive impedance of 50 Ω, the character error rate is below 4%.

[1] Where there is no printer, the dedicated display device should be located in the position from which the ship is normally navigated.

4.2 Receiver for HF-MSI

4.2.1 The receiver sensitivity should be equal to or better than e.m.f of 6 μV at the receiver input to produce an NBDP output character error rate of not greater than 10^{-2}.

4.2.2 A UTC clock, accurate to at least one second, and associated with a reprogrammable memory which contains the frequency sequence and UTC broadcast schedules of all stations, should control the HF receiver to provide automatic MSI reception.

4.2.3 The receiver should be capable of being alerted by digital selective calling and tuned in to the HF-MSI frequency to receive unscheduled broadcasts automatically.

5 DISPLAY DEVICE AND PRINTER

5.1 The display device and/or printer should be able to display a minimum of 32 characters per line.

5.2 If a dedicated display device is used, the following requirements should be met:

.1 an indication of newly received unsuppressed messages should be immediately displayed until acknowledged or until 24 hours after receipt; and

.2 newly received unsuppressed messages should also be displayed.

5.3 The display device should be able to display at least 16 lines of message text.

5.4 The design and size of the display device should be such that displayed information is easily read under all conditions by observers at normal working distances and viewing angles.

5.5 If automatic line feed entails division of a word, this should be indicated in the displayed/printed text.

5.6 When displaying received messages on a display device, a clear indication of the end of a message should be given by automatically adding line feeds after the message or including some other form of delineation. The printer or printer output should automatically insert line feeds after completing print of the received message.

5.7 The equipment should display/print an asterisk if the character is received corrupted.

5.8 Where the printer is not integrated, it should be possible to select the following data to be output to a printer:

.1 all messages as they are received;

.2 all messages stored in the message memory;

.3 all messages received on specified frequencies, from specified locations or having specified message designators;

.4 all messages currently displayed; and

.5 individual messages selected from those appearing on the display.

6 STORAGE

6.1 Non-volatile message memory

6.1.1 For each receiver fitted it should be possible to record at least 200 messages of average length 500 characters (printable and non-printable) in non-volatile message memory. It should not be possible for the user to erase messages from memory. When the memory is full, the oldest messages should be overwritten by new messages.

6.1.2 The user should be able to tag individual messages for permanent retention. These messages may occupy up to 25% of the available memory and should not be overwritten by new messages. When no longer required, the user should be able to remove the tag on these messages, which may then be overwritten in normal course.

6.2 Message identifications

6.2.1 The equipment should be capable of internally storing at least 200 message identifications for each receiver provided.

6.2.2 After between 60 h and 72 h, a message identification should automatically be erased from the store. If the number of received message identifications exceeds the capacity of the store, the oldest message identification should be erased.

6.2.3 Only message identifications which have been satisfactorily received should be stored; a message is satisfactorily received if the error rate is below 4%.

6.3 Programmable control memories

Information for location (B1)[2] and message (B2)[2] designators in programmable memories should not be erased by interruptions in the power supply of less than 6 h.

7 ALERT

The receipt of search and rescue information (B2 = D) should give an alert at the position from which the ship is normally navigated. It should only be possible to reset this alert manually.

8 TEST FACILITIES

The equipment should be provided with a facility to test that the radio receiver, the display device/printer and non-volatile message memory are functioning correctly.

9 INTERFACES

9.1 The equipment should include at least one interface for the transfer of received data to other navigation or communication equipment.

9.2 All interfaces provided for communication with other navigation or communication equipment should comply with the relevant international standards.[3]

9.3 If there is no integrated printer, the equipment should include a standard printer interface.

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[2] Refer to Recommendation ITU-R M.540.

[3] Refer to IEC 61162.

9.4 The equipment should include an interface for alert management in accordance with the *Performance standards for bridge alert management* (resolution MSC.302(87)).

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