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TO:

- JAMAICAN REGISTERED SHIPS
- (I) ALL OWNERS OF JAMAICAN SHIPS
- (II) MANAGERS AND OPERATORS OF JAMAICAN SHIPS

1. **Subject – SOLAS Mandatory Requirement for ECDIS and BNWAS**
2. **References - The SOLAS Convention , Resolution MSC.282 (86 )**

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### **Introduction**

On 1 January 2011 the amendments to SOLAS as adopted by IMO Resolution MSC.282(86) entered into force. These included a number of changes to SOLAS Chapter V “Safety of Navigation”.

Regulation 19 has been revised to include Electronic Chart Display and Information Systems (ECDIS) and Bridge Navigation Watch Alarm Systems (BNWAS). New and existing vessels must be fitted with these systems according to rolling timetables as detailed below.


### **ECDIS**

SOLAS Chapter V Regulation 19/2.1.4 which concerned the carriage of charts now reads as follows:

“All ships, irrespective of size, shall have nautical charts and nautical publications to plan and display the ship’s route for the intended voyage and to plot and monitor positions throughout the voyage. An electronic chart display and information system (ECDIS) is also accepted as meeting the chart carriage requirements of this subparagraph. Ships to which paragraph 2.10 applies shall comply with the carriage requirements for ECDIS detailed therein.”

### ***Timetable***


Paragraph 2.10 sets out a timetable for vessels engaged on international voyages to be fitted with an ECDIS using Electronic Navigation Charts (ENCs):

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- Passenger ships of 500 GT and upwards constructed on or after 1 July 2012
- Tankers of 3,000 GT and upwards constructed on or after 1 July 2012
- Cargo ships, other than tankers, of 10,000 GT and upwards constructed on or after 1 July 2013
- Cargo ships, other than tankers, of 3,000 GT and upwards but less than 10,000 GT constructed on or after 1 July 2014
- Passenger ships of 500 GT and upwards constructed before 1 July 2012, not later than the first survey on or after 1 July 2014
- Tankers of 3,000 GT and upwards constructed before 1 July 2012, not later than the first survey on or after 1 July 2015
- Cargo ships, other than tankers, of 50,000 GT and upwards constructed before 1 July 2013, not later than the first survey on or after 1 July 2016
- Cargo ships, other than tankers, of 20,000 gross tonnage and upwards but less than 50,000 GT constructed before 1 July 2013, not later than the first survey on or after 1 July 2017
- Cargo ships, other than tankers, of 10,000 GT and upwards but less than 20,000 GT constructed before 1 July 2013, not later than the first survey on or after 1 July 2018

The term “first survey” is defined in MSC.1/Circ.1290 as being ‘the first annual survey, the first periodical survey or the first renewal survey whichever is due first after the date specified in the relevant regulation or any other survey if the Administration deems it to be reasonable and practicable, taking into account the extent of repairs and alterations being undertaken. For a ship under construction, where the keel is laid before, but the ship is delivered after, the date specified in the relevant regulation, the initial survey is the first survey.’”

It will be noted from the above schedule that there is no provision for cargo ships (other than tankers) of less than 10,000 GT to be fitted with ECDIS. Flag States may also

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exempt a vessel from complying with the requirements if it is to be taken out of service permanently within two years of the applicable implementation date.

### ***Back-up Requirements***

SOLAS Chapter V, Regulation 19/2.1.5 states that:


“All ships, irrespective of size, shall have back-up arrangements to meet the functional requirements of subparagraph .4, if this function is partly or fully fulfilled by electronic means”. An accompanying footnote reads “An appropriate folio of paper nautical charts may be used as a back-up arrangement for ECDIS. Other back-up arrangements for ECDIS are acceptable (see appendix 6 to Resolution A.817(19), as amended).”

Resolution A.817(19) “Performance Standards for Electronic Chart Display and Information Systems (ECDIS)” has been superseded by Resolution MSC.232(82) which lists revised performance standards. However, Resolution MSC.232(82), Appendix 6 “Back-up Requirements” does not specify acceptable alternatives. Consequently approval by the vessel’s Flag State will be necessary if alternative back-up arrangements are to be used. Depending on the Flag State’s agreement, such arrangements may include:

- An ECDIS system using ENC’s with an independent power supply
- An appropriate folio of corrected up to date paper charts for the present voyage
- A Raster Chart Display System (RCDS), also known as an Electronic Chart System (ECS) using Raster Navigational Charts (RNCs), with an independent power supply
- An RCDS using ENC’s

### ***Systems***

ECDIS systems use ENC’s which have been published by an authorised hydrographic office. An ENC, often referred to as a vector chart, is a database of information permitting chart data to be displayed according to the user’s requirements. For example, the amount of detail shown on different scales may be specified. Moreover, ENC’s are seamless and there are no boundaries between charts. An ENC may also include additional data, such as information contained in the applicable Sailing Directions; if a navigational aid such as a lighthouse is selected, further details may be displayed. The

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nature of the data contained in an ENC enables alarms to be set in the ECDIS system, such as for depth, triggering a warning if a proposed course will take the vessel into an area where the required minimum depth of water will not be met. When a vessel is navigating in an area where ENC coverage is not available, the ECDIS will switch to using RNC data.

An RNC is a facsimile copy of a paper navigation chart. It will display the same data as on the paper chart and also has the same perimeter. Alarms and warnings cannot be set in the same manner as an ENC. However, depending on the system it may be possible for the user to set boundary alarms, such as for danger areas.

An ECDIS may use RNCs, but when ECDIS is employed in this way IMO requires the system to be used together with an appropriate folio of up to date paper charts for the voyage. Likewise, when a RCDS is in use, paper charts will remain the principal means of passage planning and position monitoring regardless of the type of electronic chart being used.

In addition to ensuring that the principal and back-up means of passage planning, position plotting and monitoring comply with requirements of the vessel's Flag State, the equipment must also be type approved by a recognised organisation.


If new equipment is fitted, deck officers should be sufficiently trained before using it operationally in order to comply with STCW and ISM Code requirements. The vessel's Flag State should also be consulted in case they have any further training requirements. In general, personnel should have completed IMO model course 1.27 – "Operational Use of Electronic Chart Display and Information Systems" and have undergone specific training arranged by the manufacturer.

Members should also consider which parts of their Safety Management System may require updating to incorporate the use and maintenance of the new equipment, changes regarding the supply of new charts, chart corrections and the management of the chart folios, and any additional training requirements.

## **BNWAS**

BNWAS performance standards are specified in IMO Resolution MSC.128(75).

## ***Timetable***

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The timetable for fitting the equipment is shown below and applies regardless of whether or not the vessel is engaged on international voyages:

- Cargo ships of 150 gross tonnage and upwards and passenger ships irrespective of size constructed on or after 1 July 2011
- Passenger ships irrespective of size constructed before 1 July 2011, not later than the first survey after 1 July 2012
- Cargo ships of 3,000 gross tonnage and upwards constructed before 1 July 2011, not later than the first survey after 1 July 2012
- Cargo ships of 500 gross tonnage and upwards but less than 3,000 gross tonnage constructed before 1 July 2011, not later than the first survey after 1 July 2013
- Cargo ships of 150 gross tonnage and upwards but less than 500 gross tonnage constructed before 1 July 2011, not later than the first survey after 1 July 2014


Once fitted, BNWAS must be used whenever the vessel is underway. It is recommended that BNWAS is also used at anchor, if appropriate. Again, Members may need to amend the Safety Management System to ensure that their operating procedures address the new requirements.

At the discretion of the Flag State a vessel which installed BNWAS prior to 1 July 2011 may be exempted from compliance with the performance standards contained in MSC.128(75).

Further guidance on “Transitioning from Paper Charts to Electronic Chart Display and Information Systems (ECDIS) Navigation” may be found in IMO Circular

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