Introduction of Bridge Navigational Watch Alarm Systems and ECDIS.

Summary
The installation of Bridge Navigational Watch Alarm Systems (BNWAS) and the carriage of Electronic Chart Display and Information Systems (ECDIS) will become mandatory over the coming years. Many vessels are already fitted with these and this notice sets out the schedule for mandatory carriage and the arrangements for ECDIS back-up and the requirements for a supply of paper charts that apply when operating in areas where there is no full coverage by vector chart data.

The legal requirements for carriage of navigational equipment in accordance with Chapter V of SOLAS are in the Bermuda Merchant Shipping (Safety of Navigation) regulations 2010

Programme for mandatory installation of BNWAS
MSC.282(86) Amendments to Chapter V, SOLAS.

Regulation 19 of Chapter V which lists the navigational equipment to be carried is amended by including new sub-paragraphs .3 and .4 in paragraph 2.2.

A Bridge navigational watch alarm system is required to be fitted in:

- Every new cargo ship of over 150 GT and every new passenger ship constructed on or after 1st July 2011;

- Existing passenger ships (of all sizes), and existing cargo ships of 3000 GT and over constructed before 1st July 2011; - not later than the first survey after 1st July 2012;

- Existing cargo ships of 500 GT and over but less than 3000 GT constructed before 1st July 2011; - not later than the first survey after 1st July 2013; and

- Existing cargo ships of 150 GT and over but less than 500 GT constructed before 1st July 2011; - not later than the first survey after 1st July 2014.

These units are to be in operation whenever the vessel is at sea.

BNWAS units installed in ships before 1st July 2011 and which do not meet the IMO Performance Standards may still be accepted by the Bermuda Maritime Administration and owners with such systems should contact the Department with the details of their systems. If appropriate the Department will issue an exemption from full compliance with the standards.

This BNWAS requirement will also apply to Bermuda yachts certified under the LY2 Code.
Programme for Mandatory carriage of ECDIS.
*MSC.282(86) Amendments to Chapter V, SOLAS.*

In a similar manner, the carriage of ECDIS is to be phased in over the coming years to 2018 and is to be fitted in:

- New passenger ships of 500 GT and more and on all new tankers of 3000 GT or more constructed on or after 1\textsuperscript{st} July 2012,
- New cargo ships, (other than tankers), of 10,000 GT or more; - constructed on or after 1\textsuperscript{st} July 2013.
- New cargo ships (other than tankers), of 3000 GT and upwards; - constructed on or after 1\textsuperscript{st} July 2014,
- Existing passenger ships of 500 GT or more constructed before 1\textsuperscript{st} July 2012; - not later than the first survey on or after 1\textsuperscript{st} July 2014,
- Existing tankers of 3000 GT and upwards constructed before 1\textsuperscript{st} July 2012; - not later than the first survey after 1\textsuperscript{st} July 2015,
- Existing cargo ships (other than tankers) of 50,000 GT and upwards constructed before 1\textsuperscript{st} July 2013; - not later than the first survey on or after 1\textsuperscript{st} July 2016,
- Existing cargo ships, (other than tankers) of 20,000 GT and upwards but less than 50,000 GT constructed before 1\textsuperscript{st} July 2013; - not later than the first survey on or after 1\textsuperscript{st} July 2017; and
- Existing cargo ships (other than tankers) of 10,000 GT and upwards but less than 20,000 GT constructed before 1\textsuperscript{st} July 2013; - not later than the first survey on or after 1\textsuperscript{st} July 2018.

Prior to the mandatory requirement for ECDIS, Bermuda ships may meet the requirement in SOLAS for the carriage of up to date nautical charts by providing an ECDIS and arranging for the chart data to be regularly kept up to date. For those ships which choose to do so the installation should be in accordance with the IMO Type Approval and the contents of this Notice.

These requirements also apply to commercial yachts certified under LY2 where they reach the tonnage limits.

**Type Approval for ECDIS.**

Any ECDIS fitted to a Bermuda ship as a mandatory requirement or as an alternative to the carriage of paper charts is required to be type approved to the appropriate standard, Assembly Resolution A.817(19) if installed before 1\textsuperscript{st} January 2009 and MSC.232(82) if installed on or after 1\textsuperscript{st} January 2009.

Bermuda ships should carry the type approval document for the ECDIS on board and available for inspection at a Safety Equipment or Passenger Safety survey.
Chart formats.

Electronic chart data for use in ECDIS is being developed and not all of the world is covered by data in the vector format used for the full functionality of ECDIS. Other areas are covered by raster chart data which is an electronic representation of the existing paper chart.

A type approved ECDIS will operate with both formats and display navigational data but when using raster chart data it will not be able to operate with the full functionality of ECDIS.

The IMO Performance Standard requires that, for navigation with ECDIS in areas where there is only raster chart data, the ship should be provided with a back up set of paper charts.

For Bermuda ships this back up set of paper charts when required for operation in areas without vector chart data may be a reduced set sufficient to navigate in the event of an electronic chart failure. Operators should determine, for each ship that requires these, an appropriate set of paper charts based on the risks involved.

Back up options.
The performance standard for ECDIS requires that there should be a back up. For Bermuda ships the Administration will accept either:

1. Two separate and independent ECDIS units and no paper charts other than any that might be needed to provide the minimum coverage in areas where there is only raster chart data, or

2. One ECDIS unit and an up to date suite of paper charts.

ECDIS Training.

In ships where ECDIS is the primary navigational system there is a requirement for all navigational officers to have completed both generic ECDIS training and ship specific ECDIS training.

Port State Control Officers will expect to see evidence of this training during inspections.

Generic ECDIS training may include any ECDIS course based on IMO Model course 1.27 either as a dedicated ECDIS course or as part of a broader course.

Ship specific ECDIS training and familiarisation should be based on the actual equipment fitted on board and provided before the officer is expected to use the equipment. If the generic training course has been undertaken on the same equipment then the course certificate should make clear the equipment that was used for the training in order to be accepted as meeting this requirement.

In general the ship specific training should be conducted on the equipment that is to be used by a manufacturer, his approved agent or someone who has received a trainer’s programme for that equipment. A manufacturer’s computer based training package can be accepted for this purpose.

The company operating the ship should ensure that the ship specific training is carried out and clearly documented. Given the critical nature of this training and the records of it this process should be incorporated in the ships Safety Management System.

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