

# Bulletin

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## Australian Ship Safety Information

--- Electronic Chart Display and Information System (ECDIS)

Under the SOLAS requirements, the phased carriage requirement of Electronic Chart Display and Information System (ECDIS) is underway and is scheduled to be completed by 2018.

With reference to recently released AMSA Marine Notice 7/2017 as attached No.1 and FAQ on ECDIS from AMSA Website as attached No.2, your attention was drawn to below requirements:

### **ECDIS FOR TRAINING PURPOSE**

ECDIS can be installed on board and used solely for training purposes until such time when the use of ECDIS becomes mandatory for the ship in question. If ECDIS is carried on board as a training aid, an official letter from the flag administration or from the relevant Classification Society should be provided to confirm this. Where ECDIS units are installed on board as a training aid, they should be appropriately marked (“for training purpose only”) and must not be used for navigation. In such cases, ECDIS must not be listed in the ship’s “Record of Equipment” form.

### **ECDIS PERFORMANCE STANDARD**

ECDIS units are required to comply with one of the two IMO PSs (A.817(19) or MSC.232(82)), as indicated below:

- ECDIS equipment installed on or after 1 January 2009 must comply with the current revised Performance Standard for ECDIS (IMO Resolution MSC.232 (82)) as amended.
- ECDIS equipment installed before 1 January 2009 can comply with the older PS for ECDIS (IMO Resolution A.817 (19)) as amended.

As indicated in AMSA FAQ, the ECDIS complying with older performance standard

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(A.817(19)) will generally be acceptable by AMSA, provided the relevant software for the ECDIS equipment has been upgraded to operate effectively with the latest version of the IHO ECDIS and ENC standard.

For some older ECDIS units (hardware), difficulties have been observed when upgrading ECDIS software. As indicated in AMSA FAQ, at least one ECDIS manufacturer has confirmed to IHO that their older hardware (built before 2003) cannot be upgraded with new software. Owner should double check with ECDIS manufacturer for this problem.

### **ECDIS GUIDANCE FOR GOOD PRACTICE (MSC.1/Circ.1503)**

Comprehensive guidance is available in International Maritime Organization (IMO) Circular MSC.1/Circ.1503---ECDIS Guidance for Good Practice, as attached No.3. All ships masters, navigating officers and operators of ships fitted with ECDIS are encouraged to use this guidance to facilitate the safe and effective use of ECDIS.

### **ECDIS SOFTWARE**

Ship owners and operators need to ensure careful management and regular maintenance of both ECDIS hardware and software.

The IHO published new editions of the S-52(Edition 6.1), S-63(Edition 1.2.0), and S-64(Edition 3.0) standards in August 2015, applying to all new and old ECDIS on board from August 31, 2017, for which, CCS released Technical Information (2017) No.17 Total No.265--- <Notice on implementation of the new approval performance standard of ECDIS equipment>, as indicated No.4.

The previous edition of the S-52 standard (Ed 6.0) will remain valid until 31 August 2017. After this date it will not display the latest presentation library. To display the latest approved presentation library, existing ECDIS systems will require upgrading to the latest IHO standards before 31 August 2017. In some cases ECDIS equipment may require replacement if it cannot be updated to the latest standards. For which, CCS released Technical Information (2017) No.28 Total No.276 to reminder ship Owner---< Revised IHO Standards Related to ECDIS> for above actions, as attached No.5.

The owner was reminded that ECDIS software MUST be updated to latest edition before above due date to avoid PSC detention.

#### **ECDIS DATA PRESENTATION AND PERFORMANCE CHECK**

The IHO has produced an ECDIS Data Presentation and Performance Check procedure. There are two separate procedures which depend on the Edition of IHO Presentation Library loaded on the ECDIS. The procedures are available on the IHO website. For This Data Presentation and Performance Check dataset contains two fictitious ENC cells which deck officers can load into their ECDIS units to assess operating performance and to determine whether there may be any display anomalies.

The sample of "Checking the IHO S-52 Presentation Library edition 4.0 in ECDIS" was indicated in attachment No.6. The old edition can be downloaded from IHO website by yourself.

As indication from IHO Website, the checks should be run at least once after installing an ECDIS. A re-run is recommended only after a software update, system upgrade or change of equipment as required from IHO.

#### **ELECTRICAL NAVIGATION CHART (ENC) AND RASTER NAVIGATION CHART (RNC)**

ECDIS may be operated in one of two modes:

1. ECDIS mode when ENC's are used; or
2. Raster Chart Display System (RCDS) mode, when suitable ENC's are not available and Raster Navigation Chart (RNC's) are used instead.

RCDS mode does not have the same functionality as ECDIS mode and can only be used together with an appropriate folio of up to date Paper Charts. Where lack of ENC coverage requires navigation in RCDS mode, mariners should critically consider the implications of not having a look-ahead capability when in this mode.

All ENCs and any Raster Navigation Chart (RNCs) must be of the latest available

edition and be kept up to date.

Please note, all Australian waters are covered by ENCs and therefore ECDIS should not be operated in RCDS mode in these waters.

## **ECDIS TRAINING**

ECDIS training include Generic ECDIS Training and Familiarisation To ECDIS Type specific to which on board.

- **Generic ECDIS Training**

All masters and officers in charge of a navigational watch on ECDIS-fitted ships who commenced an approved education and training program before 1 July 2013 will need to have undertaken approved ECDIS training. All masters and officers in charge of a navigational watch should, as a minimum, complete an approved generic ECDIS training course.

- **Familiarisation To ECDIS Type**

ECDIS familiarisation relates to ensuring that Master and navigating officers are familiar with the specific make and model of the ECDIS equipment onboard (including back-up) before taking charge of a navigational watch.

If the generic training includes familiarisation with a particular type (i.e. same make and model) of ECDIS equipment installed on board, such training can be considered to fulfil the requirement of both generic training and familiarisation.

As indicated in AMSA FAQ, ECDIS familiarisation should follow a structured plan and cover the following areas:

- familiarisation with available functions
- familiarisation with the menu structure
- display setup
- setting of safety values
- recognition of alarms and malfunction indicators and action to be taken
- route planning

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- route monitoring
- changing over to backup systems
- loading charts and licenses
- updating of software

Considering above, “trickle-down-familiarisation” is not acceptable. It is unstructured, leads to incomplete knowledge of the equipment capabilities, especially the lesser used functions. The Nautical Institute has developed a useful check list on ECDIS familiarisation that lists the key tasks for using ECDIS as a means of navigation. As per AMSA FAQ, resources supplied by the ECDIS manufacturers (such as a CD or DVD) may be a part of ECDIS familiarisation.

AMSA port State control inspectors expect to see documented evidence for “Generic ECDIS Training”. They do not expect “type specific approved training certificates” for the purpose of meeting familiarisation requirements. [AMSA port State control inspectors may request the Master and Officers to demonstrate their competence in the use of the equipment installed onboard.](#)

A ship safety management system, by establishing procedures, plans and instructions, including checklists, should include familiarization with the ECDIS equipment fitted, including its backup arrangements, sensors and related peripherals. In addition to appropriate record keeping by the shore management, a record of familiarization should be kept onboard.

The Master is expected to verify that all officers in charge of a navigational watch are competent in the safe and effective use of the ship’ s ECDIS.

#### **AMSA PSC CONCERNS to ECDIS**

AMSA’s PSC Inspectors focus on how ships meet the SOLAS requirements for chart carriage and the safe and effective conduct of navigation tasks. PSC Inspectors may take account of ECDIS-related issues including:

- ECDIS equipment is appropriately recorded in the Record of Equipment – Safety Equipment Certificate
- listing of ECDIS as critical equipment in the Safety Management System

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(SMS)

- documented procedures and instructions for the use of ECDIS are included in the SMS and that they are understood by all officers responsible for navigation
- ECDIS type approval certificate, confirming compliance with relevant IMO performance standard and the International Electrotechnical Commission (IEC) test standard
- ECDIS software is maintained to the latest applicable IHO standards
- use of latest edition official ENC's, updated and corrected to the latest available updates and notices to mariners
- adequate independent back-up arrangements (as detailed on the Record of Equipment), ensuring the vessel can be safely navigated for the remainder of the voyage in the event of an ECDIS failure
- approved ECDIS generic training has been undertaken by the master and officers in charge of a navigational watch
- master and navigating officers are familiar with the operation of the ECDIS equipment fitted and can demonstrate operational competency
- conformance and alignment with input from sensors (e.g. position fixing system, gyro compass and speed and distance measuring device) and presentation of such information on the ECDIS display
- evidence of periodic tests and checks of the ECDIS carried out in accordance with the SMS and manufacturer's requirements
- ECDIS planning and monitoring settings are appropriate to the ship's dimensions and area of operations (e.g. cross track limit, safety depth and safety contour).

### **AMSA PSC FLOW CHART FOR ECDIS**

AMSA also release a PSC Flow chart on AMSA Website, indicating what deficiency can resulting vessel detention by AMSA, as attached No.7

From this Flow Chart , **it was noted AMSA considers that where carriage of ECDIS is mandatory, it should be used as the primary means of navigation.**

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Attachment 1---Guidance on ECDIS for ships calling at Australian ports

Attachment 2--- AMSA FAQ on ECDIS

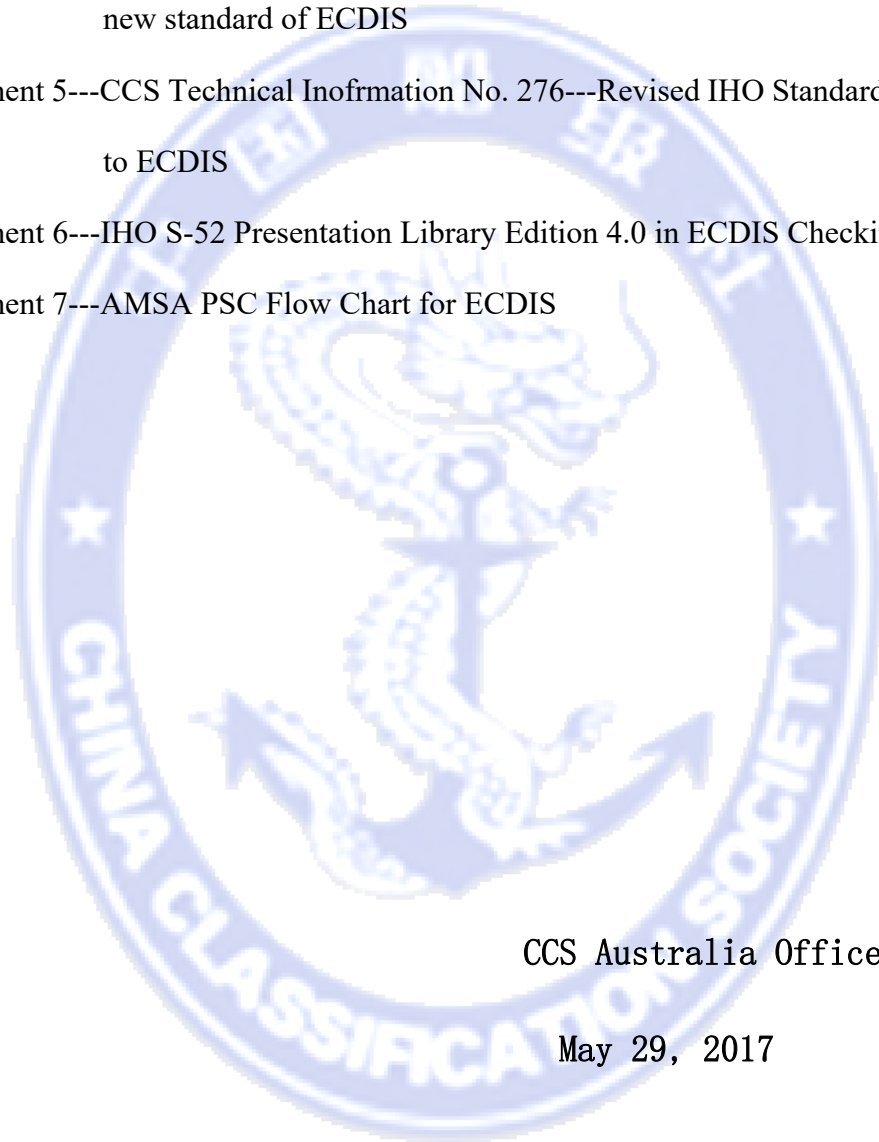
Attachment 3---MSC.1circ.1503-ECDIS Guidance for Good Practice

Attachment 4---CCS Technical Information No. 265---Notice on implementation of  
new standard of ECDIS

Attachment 5---CCS Technical Information No. 276---Revised IHO Standards Related  
to ECDIS

Attachment 6---IHO S-52 Presentation Library Edition 4.0 in ECDIS Checking

Attachment 7---AMSA PSC Flow Chart for ECDIS



CCS Australia Office

May 29, 2017

Announcement:

1. Intention is to assist and ensure owners to understand and well prepared, ensuring all updated requirements from AMSA can be met
2. For more information, please visit AMSA website at [www.amsa.gov.au](http://www.amsa.gov.au) and CCS website at [www.ccs.org.cn](http://www.ccs.org.cn)
3. The information contained does not and cannot supersede any AMSA or related governing parties requirements as well as CCS class rules and regulations.