IMPA Guidance to Members on ECDIS

Introduction

With most vessels mandated to have ECDIS fitted by 2018 there is a need for Maritime Pilots to continue ongoing efforts to become more familiar and proficient with this emerging Navigational Aid.

This guidance is intended to assist member associations with their national requirements and standards.

Training

Amendments to the STCW Convention require holders of an STCW certificate serving on an ECDIS equipped ship to have successfully completed ECDIS simulator training in a course approved by the Administration that issues the certificate. For officers of a navigational watch, the course must provide the participant with "proficiency in operation, interpretation, and analysis of information obtained from ECDIS." Masters and Chief Officers serving on ECDIS-equipped ships must additionally demonstrate proficiency in the "management of operational procedures, system files and data" in ECDIS (e.g., the ability to input and update information as well as configuring the system and back-up files). This proficiency may be demonstrated through in-service experience or an approved simulator training course, although the master or mate must also have obtained and demonstrated proficiency in the OOW-level operational aspects of an ECDIS through an approved course. As a result, it is understood that the new Manila STCW amendments will require an approved ECDIS training course for all STCW certificate holders serving as an OOW or Master/Chief Officer on an ECDIS equipped ship.

The IMO model course (1.27) colloquially known as a "generic" ECDIS course is referenced in the STCW as a guideline for Administrations. Both the current and the proposed revised courses envisage approximately 40 hours of instruction. Administrations have discretion in the length of the courses that they will approve, however, and there are reports that some Administrations have, or will, approve courses of only 2 or 3 days.

Pilots are in a different situation from ships' bridge crews. Pilots typically do not manage the system files or input and update data on a ship's ECDIS. Therefore, not all the subjects covered in the IMO model course are directly relevant to a pilot's job. In addition, pilots may encounter over 30 different makes and models of ECDIS equipment. As a result,

type-specific training or instruction in ECDIS equipment is not feasible for pilots.

A pilot who holds an STCW certificate must, of course, comply with his or her Administration's rules regarding ECDIS training for the purposes of the certificate, including taking an approved generic course. Pilots may, nevertheless, consider that a generic ECDIS course should be part of their initial and continuing training programmes.

Regardless of whether pilots take an STCW generic course, they should consider ECDIS training that specifically addresses the particular tasks and needs of pilots. Pilot groups may want to work with training centres and providers to develop such courses. These pilotage aspects of ECDIS training could be incorporated into an IMO Model type-course satisfying the STCW requirements or be a separate course, either instead of the IMO Model (for those not holding an STCW certificate), or in addition to the IMO Model course.

In general the objectives of an ECDIS training course for pilots should be that by the end of the ECDIS course, pilots should be able to:

- Understand the navigational functions of ECDIS,

- Direct the selection of, and assess relevant information.

- Understand the potential errors of displayed data and the common errors of interpretation.

- Explain why ECDIS should not be relied upon as the sole source of navigational information,

- Be familiar with the features that are common to all ECDIS systems.

Operational Issues

1. Although ECDIS technology is generally recognized as capable of enhancing navigation safety, there are system limitations and inaccuracies that can be further exacerbated by integrating displays or by using inaccurate source data.
2. ECDIS requires operator input, which can significantly affect the accuracy of the information being broadcast or displayed, and ECDIS systems have been placed in use in many vessels with little or no formal training of the crew.
3. Individual pilotage areas are unique and may differ in the availability of accurate chart data for ECDIS.

4. In order to make a professional judgment as to the use of information from emerging electronic navigation technologies such as ECDIS, a pilot should be familiar with the capabilities and limitations of these technologies.
5. IMPA encourages its member pilots to discuss the use of emerging electronic navigation technologies such as ECDIS by the pilot and bridge team in their Master – Pilot Information Exchange.
6. IMPA encourages its member pilots to validate the information provided by ECDIS and other electronic navigation systems by traditional methods.
7. ECDIS relies on software. Old software, which has not been updated by the manufacturers can be dangerous. Some manufacturers do not create/use ENCs which are as good as they could be, owing to the way the data is processed. Therefore treat ECDIS data like everything else you use, be it a buoy, GPS, radar, AIS or indeed a paper chart.
8. There are operating 'anomalies' with ECDIS. Anomalies is a euphemism for shortcomings. ECDIS is software-driven, it is type approved and data is tested, but it must be constantly updated. It has to comply with regulations (IMO performance standards etc.) when initially installed, but if a ship changes hands you could have an ENC display that is maybe 6 years old.

IMO do recognize these problems and they have issued a circular to all administrations, including yours (MSC 1/Circ.1391) These anomalies can include:

- Inadequate depiction of shoal water
- Incorrect display of obstructions
- Incorrect display of wrecks
- Incorrect display of light sector arcs
- Naming of some features being unclear
- Major landfall lights not clearly distinguishable from minor sector lights

Remember, ECDIS is no more accurate than a paper chart

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