



DEPARTMENT OF ECONOMIC DEVELOPMENT

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### **Concentrated Inspection Campaign on Safety of Navigation including ECDIS**

The purpose of this notice is to advise shipowners, operators, managers and Masters of Isle of Man registered ships of information in respect of forthcoming Port State Control activities

The Isle of Man Ship Registry wishes to give advance notice of a CIC on Safety of Navigation including Electronic Chart Display Information System (ECDIS) which is due to commence on the 1<sup>st</sup> September 2017 and will run until the 30<sup>th</sup> November 2017.

The CIC will be carried out jointly by the Paris MoU and Tokyo MoU Regions. The main purpose of the CIC will focus on the installation and operation of ECDIS. Other areas of focus will be on safety of navigation concerning voyage arrangements and navigational equipment, which includes amongst others, AIS, BNWAS, VDR, navigational lights and shapes, signalling lamp equipment, and the emergency steering operation. The aim of the CIC will be to check the safety of navigation requirements for ships, and the competency of the crew involved in navigation operations.

The campaign is designed to examine that ships equipment shall conform to valid safety equipment certification, and be accompanied with proper records, including valid type approval certification, and shall be properly maintained. The Master and ship's navigating officers shall be familiar with the operation of all bridge navigational equipment, especially ECDIS.

The specific areas of the CIC are not intended to detract from the normal coverage of Port State Control Inspections. The CIC will be undertaken on every ship which is eligible for inspection during the period of the campaign.

In carrying out the inspection Port State Control Officers (PSCOs) will be using a list of selected questions to ensure compliance. In particular those related amongst others to;

- Is the ship's navigational equipment in accordance with its applicable safety certificate;
- Does ECDIS have the appropriate up to date electronic charts for the intended voyage and is there a suitable back up arrangement;
- Do all navigational watchkeeping officers have evidence to comply with STCW requirements for ECDIS;
- Can all navigating watchkeeping officers demonstrate familiarisation with ECDIS;
- Can the ship's VDR / SVDR unit record data fully;
- Is the second and / or third stage remote audible alarm of the BNWAS recognised;
- Does the ship's AIS transmit the correct identity and particulars;
- Does the ship's voyage / passage plan cover the whole voyage;
- Do all crew know and respect the official working language which established on board and recorded in the ship's logbook;
- Are the crew familiar with the procedure for the emergency operation of the steering gear;

- Is the exhibition of navigation / signal lights in accordance with the requirements of COLREG72.

## **Notes and Guidance on specific questions of CIC:-**

### **Q.1 Navigation equipment in accordance with applicable safety equipment certificate:-**

The Master should ensure the validity of the relevant ship's safety equipment certificate and accompanying supplement and section 3, details of navigational systems and equipment.

The Master should also verify the navigation equipment is actually fitted in accordance with the records in the relevant supplement as according to ship type.

### **Q.2 Does ECDIS have the appropriate up to date electronic charts for intended voyage and there are suitable back up arrangements:-**

The Master should check if the chart information in ECDIS is the latest ENC/SENC standard edition. The information should be appropriate for the intended voyage and up to date. .

Some ECDIS equipment may operate in the Raster Chart Display System (RCDS) mode, and the chart information should be RNC/SRNC. When in RCDS mode, the updated APC should be equipped on board for readily use. .

The PSCO will check amongst others;

- if an updated paper chart folio for the entire planned voyage is the acceptable back-up arrangement;
- if the ECDIS and back-up system are capable of performing the route planning and route monitoring;
- the power supply to the ECDIS is driven by main power and emergency power where applicable.

### **Q.3 Is there evidence indicate that all watchkeeping officers comply with STCW requirements for ECDIS:-**

The Master should check his own and the qualification of navigating officers on board and ensure the appropriate endorsement of ECDIS on the certificate of competency (CoC) is correct, and whether there are any operation restriction on the CoC.

The Master should check the requirements on standard of competence of using ECDIS for officers in charge of a navigational watch on ships required to carry ECDIS. Every candidate for certification shall provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in STCW/AII/1 (general training and familiarization training evidence).

Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS, but these limitations shall be reflected in the endorsements issued to the seafarer concerned.

### **Q.4 Can watchkeeping officers demonstrate familiarization with ECDIS operation:-**

During the inspection, the PSCO will be required, to check relevant records or ask for onsite operation, to make sure that watchkeeping personnel understand the functions and operation of installations / equipment, and are familiar with the operation of navigational equipment.

The PSCO will check amongst others;

- if the officer is capable of monitoring and adjusting information which includes own position, sea area display, mode and orientation, chart date displayed, route monitoring, user created information layers, contacts (when interfaced with AIS and /or radar tracking) and radar overlay functions (when interfaced);
- if the officer is able to set alarm parameters for anti-grounding, proximity to contacts and special areas;
- the officer's situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors;
- the familiarization of officer for ECDIS update procedure, and should check the officer's route designing skill.

#### **Q.5 Can the ship's VDR or SVDR record data fully:-**

The PSCO should check amongst others;

- if the VDR / SVDR is equipped in accordance with requirements of SOLAS convention and its amendments;
- verify if the VDR / SVDR annual performance test is carried out. VDR/SVDR annual performance test may be carried out within 3 months before or after the anniversary date of SE certificate, as to be harmonized with requirements regarding surveys;
- if the power of the VDR / SVDR is provided by the ship's main source as well as emergency source of electrical power;
- the number of alarms shown on the VDR / SVDR panel and what do the alarms stand for (which could learn for the operation manual). If there is alarm indicated on the panel, PSCO can request officers to verify if concerned equipment is well connected to the VDR / SVDR;
- verify if the VDR / SVDR is able to record data fully according to the date of keel laid and the date the VDR / SVDR is installed to ship. The PSCO can also refer to the annual performance test report.

#### **Q.6 Is the second and / or third stage remote audible alarm of the BNWAS recognised:-**

The PSCO should check that, if security protection for BNWAS is properly kept. The means of selecting the Operational Mode and the duration of the Dormant Period (Td) should be given safety protection so that access to these controls is for the Master only;

- During normal navigating, for the key control type, the key shall be kept by the Master;
- For the password type, if the password is known by the Master only.

Considering different types of BNWAS, Master and OOW shall be familiar with different ways to initiate the reset function.

The PSCO should check the operation of BNWAS by OOW to confirm the system is in normal working condition. Once the BNWAS went into operation, the second stage and / or the third stage remote audible alarm shall be activated when the first stage alarm had not been reset.

The BNWAS should be powered from the ship's main power supply. The malfunction indication, and all elements of the Emergency Call facility, if incorporated, should be powered from a battery maintained supply.

### **Q.7 Is the ship's AIS transmitting the correct particulars:-**

The PSCO should verify if AIS is subjected to an annual test. The AIS annual test should be in accordance with the survey requirements of the ship's applicable safety certificate, and conducted within 3 months before or after each anniversary date of the Cargo Ship Safety Equipment Certificate.

The PSCO should verify the correctness of the ship static and dynamic information, the substantial compliance with the practical condition of the ship.

- Static information include: MMSI, Call sign & Name, IMO number, Length and beam, Type of ship and Location of position-fixing antenna on the ship;
- Dynamic information include: Ship's position with accuracy indication and integrity status, Time in UTC\*, Course over ground, Speed over ground, Heading, Navigational status;
- Voyage related information include: Ship's draught, Hazardous cargo (type) , Destination and ETA;
- verify if navigation information is input and updated timely; and
- the operator can display and consider incoming safety related messages and send safety related messages as required.

### **Q.8 Does the passage plan cover the whole voyage:-**

The PSCO should verify if the following aspects were taken into consideration :

- the condition and state of the vessel, its stability, and its equipment; any operational limitations; its permissible draught at sea in fairways and in ports; its manoeuvring data, including any restrictions;
- any special characteristics of the cargo (especially if hazardous), and its distribution, stowage and securing on board the vessel;
- the provision of a competent and well-rested crew to undertake the voyage or passage;
- requirements for up-to-date certificates and documents concerning the vessel, its equipment, crew, passengers or cargo.

The following points should also be inspected by the PSCO;

- verify if the voyage plan has been made and is approved by the captain and if the voyage plan has been prepared covering the entire voyage from berth to berth and effectively executed;
- the PSCO should verify if there is evidence that the plan highlights areas where specific fixes or fix frequencies would be expected;
- the PSCO should verify if the passage plan collect all relevant information concerning the intended voyage and the passage plan is planned with adequate and appropriate charts and other publications;
- the PSCO should verify if the passage plan is clearly marked on charts. For ships where an ECDIS is solely being used for navigation, route planning and route monitoring in ECDIS should be checked;
- the PSCO should verify if any changes to the plan is made and clearly marked and recorded by officers engaged in navigational watch.

**Q.9 Do all crew know and respect the official working language which is established on board and recorded in the ship's logbook:-**

The PSCO should verify;

- if a working language is established and recorded in the ship's log-book;
- if each seafarer can understand and, where appropriate, give orders and instructions and to report back in working language;
- if senior officers could conduct ship - shore communication in English (working language on bridge); and
- check whether the training manual, the fire safety operational booklet, muster list, garbage management plan, garbage placard, security plan, noise notice board, etc. on board are written in the ship's working language. The ship may be considered for detention if her crew were found unable to communicate effectively in working language.

**Q.10 Are the crew familiar with the procedure for the emergency operation of the steering gear:-**

The PSCO should verify if steering gear is checked and tested by ship's crew before departure by means of checking relevant records.

- the full movement of the rudder according to the required capabilities of the steering gear;
- a visual inspection for the steering gear and its connecting linkage;
- the operation of the means of communication between the navigation bridge and steering gear compartment;
- if there is evidence of the emergency steering drills which shall take place at least once every three months. The PSCO should also check if the drills include direct control within the steering gear compartment, the communications procedure with the navigation bridge and, where applicable the operation of alternative power supplies;
- if the Master and duty officers are familiar with the procedures for changing from local steering gear control to remote steering gear control;
- if there are simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units permanently displayed on the navigation bridge and in the steering compartment;
- he can request crew to demonstrate each alarm of steering gear; and
- he can request crew to demonstrate emergency steering operation as to check the degree of familiarity.

**Q.11 Are the exhibition of navigation / signal lights in accordance with the requirements of COLREG72:-**

The ship should be equipped with navigation/ signal lights including masthead light, sidelights, stern light, towing light, all-round light, flashing light and manoeuvring lights, as required by the International Regulations for Preventing Collisions at Sea 1972 (COLREG 72)

A masthead light, sidelights and a stern light installed on board a ship on or after 1 January 2009 not less than 50 m in length should be duplicated or be fitted with duplicate lamps.

A daylight signalling lamp, or other means, should be equipped on ships of 150 gross tonnage and upwards and passenger ships irrespective of size constructed on or after 1 July

2012, using an energy source of electrical power not solely dependent upon the ship's power supply.

The PSCO should check the navigation / signal lights are in normal working condition, and are supplied by both mains and emergency power

### **References:-**

The following references, SOLAS, STCW, COLREG72, IMO Resolutions and Circulars are for information related to the CIC campaign and relevant navigational equipment;

SOLAS Chapter V, Regulations 15 to 21 inclusive; SOLAS Chapter I Regulations 8, 11 to 14

STCW Chapter I/4 and I/14

IMO Res.817(19) – Performance standards for ECDIS, MSC.64(67) & MSC.86(70) – Amendments to Res.817(19) Performance standards for ECDIS, and MSC.232(82) – Adoption of revised performance standards for ECDIS.

MSC.1/Circ.1503 –ECDIS – Guidance for good practice

IMO Res. 893(21) – Guidelines for voyage planning

MSC.128(75) – Performance standards for BNWAS and MSC.1/Circ.1471 – Guidance on BNWAS auto function

MSC.163(78) – Performance standards for shipborne S-VDRs; A.861(20) – Performance standards for shipborne VDRs; MSC.214(81) – Adoption of amendments to performance standards for shipborne VDRs ( Res.A.861(20) ) and performance standards for shipborne S-VDRS ( Res MSC.163(78) ); and MSC.333(90) – Adoption of revised performance standards for shipborne VDRs

MSC./Circ.891 – Guidelines for on-board use and application of computers for electronic nautical publications

MSC.74(69) Annex 3 – Recommendation on performance standards for AIS; and MSC.1/Circ.1252 – Guidelines on annual testing of AIS; Res.A1106(29) – Revised guidelines for on-board use of AIS; MSC.347(91) – Recommendation for the Protection of the AIS data link

MSC.253(83) – The performance standards for navigation lights, navigation light controllers and associated equipment

MSC.95(72) – Recommendations on performance standards for daylight signalling equipment

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