

# 澳大利亚水域航行船舶安全提示

CCS 澳大利亚办事处, 2016 年第 002 期, 总第 052 期

## AMSA 船舶安全信息

### ——船舶电子海图系统常见缺陷

关于船舶电子海图系统 (ECDIS) 的技术提示信息, 我们曾经《澳大利亚水域航行船舶安全提示》第 29、36、38 期做了相关提示。

随着 ECDIS 的逐步实施, 较多船舶因为 ECDIS 缺陷在澳大利亚被 PSCO 滞留。应部分船东的要求, 我们向 AMSA 获得了 2015 年底以前的与 ECDIS 相关的 PSC 缺陷。根据这些缺陷, 我们整理了本期提示, 以方便赴澳船舶学习并正确使用 ECDIS, 确保船舶安全航行。

**特别提醒**, 船员不仅要持有有效的培训证书 (Generic ECDIS Training Certificate 和 Familiarization Training Certificate), 更熟练操作 ECDIS。

下面摘录的缺陷包含了相当数量的滞留缺陷。为方便大家阅读, 我们把缺陷分为原则性缺陷、操作类缺陷、管理类缺陷、技术类缺陷四大类。其中, 管理类缺陷需要特别引起船公司的重视。

**我们在此特别感谢 AMSA 提供了这些宝贵资料, 相信这些信息必将帮助船公司提高船舶管理水平。**

#### 原则性缺陷

- Unauthorized ECDIS in use.
- Non-compliant ECDIS not marked as FOR TRAINING USE ONLY.
- Bridge officers have used non approved ECDIS for navigation. ECDIS is also listed in vessels voyage plan.
- Safety Equipment Certificate does not specify whether nautical charts or ECDIS are primary

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means of navigation.

- ECDIS is listed as primary means of navigation on safety equipment certificate Form E with paper chart back up but official ENC charts not available on ECDIS.
- Type approval certificate for ECDIS not available onboard.
- ECDIS, part of the shipboard Safety Equipment Certificate, marked FOR TRAINING PURPOSE only.
- Master failed to notify Flag Authority or RO of failure of primary means of navigation ECDIS in accordance with SOLAS I/11 and SMS requirements.
- Non-compliant ECDIS used for navigation, Not marked FOR TRAINING USE ONLY; passage plan indicates ENC as aid only.
- Bridge officers have used a non-approved ECS system for navigation. ECDIS not listed on Form E and ECS operating in RCDS mode.
- Vessel using navigation chart which not provided in sec. 2.1 of safety equipment certificate. Vessel is provided with fully approved ECDIS
- Vessel certified ECDIS as stated on CSSE form E but not used for previous voyage.
- Evidence suggests that electronic charts were used while navigating through inner Great Barrier Reef route, same not marked for training purposes only (Form E does not list ECDIS as any means of navigation).

#### 操作类缺陷

- Officers not familiar with secondary alarm settings on ECDIS. SMS procedures for ECDIS not ship specific.
- Bridge officers fixing vessels position on charts infrequently during voyage from last port, intermediate positions fixed using unapproved ECDIS.
- Voyage plan from Port Botany to Melbourne and Melbourne to Adelaide does not have any range and bearing references from points of land or parallel index rangings as required by company procedures. Only GPS lat and long used for waypoints. Note vessel has two non compliant ECDIS onboard.

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- Key personnel not familiar with operation of ECDIS - safety parameter setting for the voyage.
- Unauthorized ECDIS/ECS, with out of date electronic information/charts, used for monitoring voyage.
- Bridge officers have turned off all grounding alarms on ECDIS. Crew member stated that alarms are turned off during pilotage to prevent too many alarms.
- No evidence that bridge officers have plotted radar or visual bearings on ECDIS. Bridge officers have solely relied on ECDIS generated GPS positions.
- Bridge officers unfamiliar with procedure to switch between automated position fixing sources on ECDIS. One simulated failure of DGPS input.
- Crew members have not used manual plotting for vessel ECDIS during voyage from Port Kelang to Brisbane. Also the PSSA alert has been disabled on ECDIS voyage check.
- Cross track value not set correctly in ECDIS, once Brisbane to Port Kembla track is validated, it generates 246 errors. During arrival in Brisbane the Voyage plan was modified in agreement with the pilot (eastern Channel instead of middle Channel). Current track was not modified to reflect this decision.
- Bridge officers have relied entirely on GPS positions generated by approved ECDIS or GPS positions plotted at 4 hour intervals on paper charts for navigation. No evidence that bridge officers have verified vessels position with other means with appropriate frequency.
- Last voyage: ECDIS: excessive cross track distance. Minimum scale ID alarm not selected.
- ECDIS - setting of safety depth could not be demonstrated by navigation officers.
- Key officers unable to demonstrate independent method of position fixing in ECDIS.
- On the Safety Equipment Certificate Form E, Only Navigational charts is listed as Primary means of navigation, however unapproved ECDIS is being used as primary means of navigation in addition navigating officers not trained in the use of ECDIS, this and all of the above deficiencies are objective evidence that the safety management system as implemented on board fails to adequately satisfy the requirements of the ISM code sections

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- Bridge officers unable to demonstrate the manual plotting of radar and visual bearings on vessels ECDIS.
- ECDIS safety depth setting (11m) less than Max draught (11.3m) for the last voyage to Brisbane .
- Ship position fixing at appropriate interval not checked on ECDIS by independent means of position fixing.
- Monitoring of passage plan not carried out using ECDIS -ECDIS certified, vessel used paper charts for the completed voyage
- Bridge officers have not crosschecked ECDIS generated positions with either visual or radar positions.
- Passage planning inadequate - no instructions on setting of safety depth/ contour parameters for ECDIS, Master standing order on bridge refers to use of paper charts while vessel is using ECDIS.
- ECDIS parameters (safety depth, safety contours, channel limits etc) not set appropriately for pilot logs for previous voyage. Voyage plan checklist not used since 29/4/2015. (Rectified during inspection).
- Both ECDIS onboard unable to change to secondary source of position fixing.
- Bridge officers unfamiliar with running voyage safety check, changing of position sources and depth contour settings on ECDIS.
- Officers unfamiliar with critical alarm on ECDIS at time of inspection.
- ECDIS alerts for PSSA areas set to ignore.
- Bridge officer unfamiliar with operation of ECDIS. Bridge officer was unable to change over to second GPS system when primary GPS system was switched off. Officer set vessel position fixing method to dead reckoning mode.
- Navigating officers unable to demonstrate the plotting of the vessels position manually by range and bearing on ECDIS.

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- Changeover from main to reserve power source for ECDIS unable to be demonstrated.
- ECDIS listed on vessel's Form 'E' - last update of charts October 2013. -vessel has been using paper navigation charts.
- ECDIS AUS chart cells not corrected (updated) to latest notice to mariners.
- Voyage Plan template lists paper charts and not ENCs. Not approved mouse in use on ECDIS Station 1. Overscale ID not selected and not provided in the SMS ECDIS setting list. Safety Depth settings, although correct, not formally defined by the Master as provided by SMS.
- Voyage plans from Port Kembla to Melbourne and Melbourne to Adelaide do not indicate on voyage charts the following: areas of navigational hazard, Wheel over positions, Radar conspicuous objects, transit bearings, and clearing bearings and ranges. As required by company voyage planning procedures. Note vessels has two non-compliant ECDIS onboard.
- Vessel in approaching Brisbane has deviated from planned voyage plan in accordance with Pilot instructions. Deviation plan reflected and monitored on paper charts but not on ECDIS.
- No evidence of position fixing by radar on electronic chart. Excessive cross track distance generating numerous alarms when safety check performed on loaded track. Safety depth not correctly set on coastal voyage. Minimum scale alarm not set. Not approved mouse in use on both ECDIS Stations.
- Electronic Navigation Charts (ENC) not loaded and updated on backup ECDIS.
- ECDIS safety contour and safety depth setting incorrect (setting was 0 meters while Max draught was 10.7 meters). Navigation officers not familiar with the operation of ECDIS (Safety Equipment Cert Form E indicating ECDIS as primary and Charts as backup). The ship was actually navigated from Japan to Brisbane with Charts as primary and ECDIS as backup.
- Passage plan does not contain information for configuration of ECDIS parameters ( safety depth, safety contour etc.)

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## 管理类缺陷

- Officers not familiar with secondary alarm settings on ECDIS.SMS procedures for ECDIS not ship specific.
- The Safety Management System as implemented on board fails to ensure the following elements of the ISM Code : No procedures or instructions are developed for key shipboard operations (ECDIS) - Element 7; inadequate familiarization with duties - Element 6 and inadequate Emergency Preparedness - Element 8 based on deficiency nos. 5 and 6.
- No onboard instructions or guidance from company on the safe operation of ECDIS.
- ECDIS (Main and backup systems) Digital Certificate not maintained to latest IHO standards - displaying expiry date of September 2013.
- ECDIS electronic charts for completed voyage not corrected to latest notice to mariners.
- Navigating officers - C/Officer, 1st/Officer and 2nd/Officer do not have Type approved ECDIS familiarization training.
- Navigation officers (Chief & second officer) not completed ship specific ECDIS familiarization training as required by STCW.
- Ships safety management system (SMS) does not have procedures for use of ECDIS. SE certificate shows ECDIS as primary means of navigation.
- Third officer does not hold ECDIS training (general familiarization) endorsement. ECDIS is sole means of navigation.
- ECDIS is used as primary means of navigation & company SMS does not include familiarization training procedure for these units. (Master & 3rd officer without specific training for Sperry ECDIS system)
- Certificates of approval for ECDIS (both) expired (5/3/2014); During week 47/14 now, Electronic charts are corrected up to week 37/14, latest corrections not available.
- ECDIS has warning activated that at least one used charts may not be up to date.
- Vessels Safety Management System (including bridge procedures and checklists) does not reflect the presence of ECDIS as the primary (and sole) means of navigation.

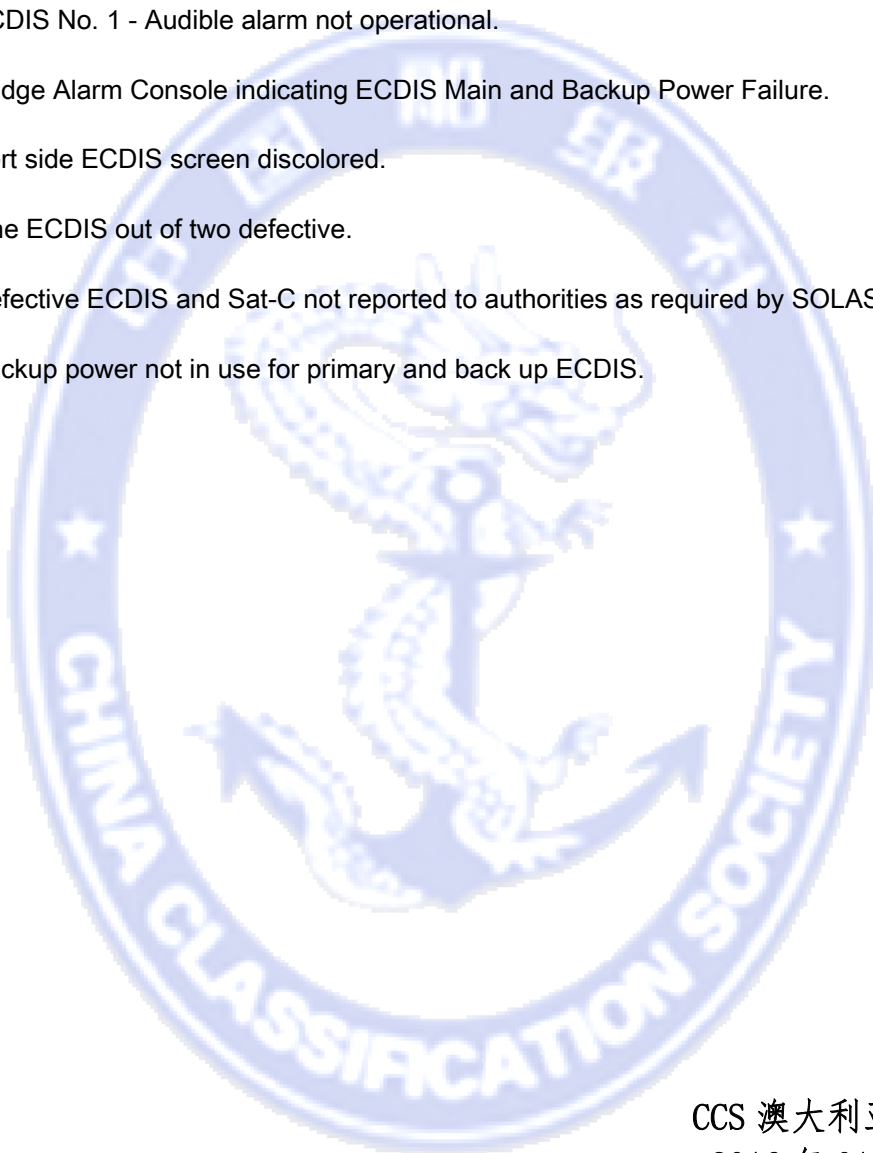
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- Procedures for critical operations - SMS does not specify procedures for passage planning, execution and monitoring using ECDIS (vessel fully ECDIS).
- Not all the electronic charts for the intended voyage are available on board (ECDIS listed on form E) paper charts as back up.

#### 技术类缺陷

- ECDIS No. 1 - Audible alarm not operational.
- Bridge Alarm Console indicating ECDIS Main and Backup Power Failure.
- Port side ECDIS screen discolored.
- One ECDIS out of two defective.
- Defective ECDIS and Sat-C not reported to authorities as required by SOLAS.
- Backup power not in use for primary and back up ECDIS.



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2016年01月19日

#### 特别提示:

1. 本文的目的是协助船公司及及时了解 AMSA 检查要求, 更加准确地遵守澳大利亚水域的相关规定
2. 详细资料可访问 AMSA 网站 [www.amsa.gov.au](http://www.amsa.gov.au), CCS 网站 [www.ccs.org.cn](http://www.ccs.org.cn)
3. 本文内容不替代 CCS 规范、相关公约、AMSA 及其他主管机关的任何规定

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