



The Importance of ECDIS Training and Familiarisation, and Good Watch-Keeping Practice

The UK's Marine Accident Investigation Branch (MAIB) has recently published the report of its investigation of the circumstances which resulted in the grounding of the m.t. "Ovit" on the Varne Bank in the English Channel on 18 September 2013. The report is of particular interest because it identifies the watch-keeping officers' failure to properly use an Electronic Chart Display and Information System (ECDIS) as a causal factor in the grounding. In view of the increasing use of ECDIS (see Risk Alert RA14 dated March 2010), there are important lessons to be learned from this report in relation to ECDIS training and familiarisation, as well as navigational watch-keeping practice.

The m.t. "Ovit" is a 6,444GT oil/chemical tanker registered in Malta. On 18 September 2013 the vessel was on passage from Rotterdam to Brindisi laden with a cargo of vegetable oil.

The vessel's primary means of navigation was an ECDIS. The vessel's Master and officers had received type-specific training on the ECDIS equipment fitted to the vessel. The third officer was due to be promoted and as preparation for this new role had been given the task of preparing the passage plan for the voyage to Brindisi. The third officer's preparation of the passage plan was not supervised by a more experienced officer, and the completed plan was not checked by the Master.

The Varne Bank is a significant navigational hazard. It is a sand bank almost six nautical miles in length situated approximately nine nautical miles southwest of Dover. It lies centrally in the southwest-bound lane of the traffic separation scheme in the Dover Strait. The passage plan of the "Ovit" set a course which passed directly over the Varne Bank.

The MAIB's investigation found that the function of the ECDIS which enabled the completed plan to be checked for safety identified a number of dangers associated with the passage, including the specific risk of grounding on the Varne Bank. Unfortunately that function was not used in the process of planning the passage, even though the third officer had recently been provided with familiarisation training for the specific ECDIS on the vessel. Instead, the officer simply zoomed in on each leg of the passage to visually check for navigational hazards. This was self-evidently a much less reliable means of checking the navigational safety of the intended plan.

The MAIB's investigation also established that the audible alarm on the ECDIS was inoperative and that the system had been operated in this condition for a

considerable period of time. This deficiency rendered the setting of various safety parameters on the system, such as the guard zone, safety contour and grounding alarm, ineffective.

Further, certain system settings had not been utilised and this compromised the quality of the information displayed. The feature which automatically loaded the most appropriate scale of chart available was not selected. The officer of the watch at the time of the grounding had aligned the scale of the ECDIS with the radar display. This resulted in a display on the ECDIS that contained an "over-zoom" notification, intended to alert the navigator to the fact that important navigational information may be missing because of the scale in use.

In addition the safety contour had not been set in accordance with the requirements of the vessel's Safety Management System. Had that been done, the setting on the ECDIS would have been 20m. As it was, the safety contour was set to the manufacturer's default setting of 30m. Comparison of the ECDIS displays on both of these settings showed that a much clearer display of safe water was available on the 20m setting.

The vessel passed the 30m contour seventeen minutes before grounding. That should have activated an alarm. However, the only alarms that were active were the grounding and cross track distance (XTD) alarms. The safety contour alarm was effectively disabled because an option on the "Guard Zone" menu page to "Display and Highlight Dangers" was set to "Never".

The grounding alarm was determined by the safety depth which was set at 13m. The "Ovit" passed over that depth seven minutes before grounding. Although this initiated the system's alarm, the watch-keeper was unaware of it because the system's audible alarm was inoperative.

The XTD limit was set to zero. At the time of grounding the vessel was over 200m to port of the intended track. Whilst this situation also failed to activate an audible alarm, the XTD out of limit alarm would only have been effective if the planned route was inherently safe, which it was not in this instance given that the intended track passed directly over the Varne Bank.

Leaving aside the risks arising from the passage plan and the ECDIS settings, there were other issues which contributed to the cause of this grounding.

On taking over the navigational watch the chief officer did not check the planned route for the next four hours to determine the potential navigational hazards and

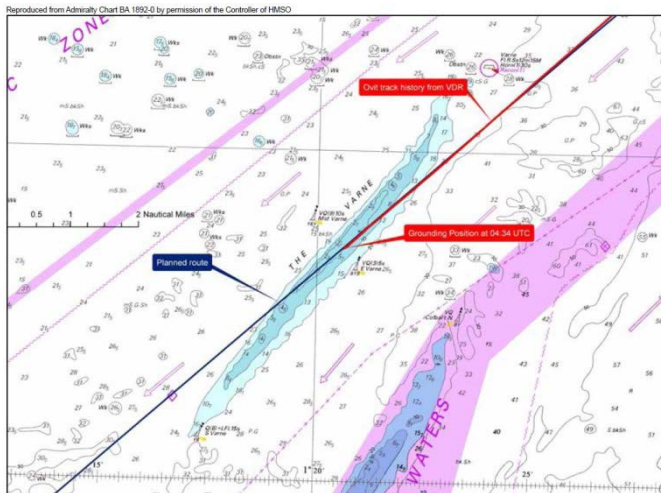
Risk Alert



navigational marks likely to be encountered. This is in contravention of STCW Section A-VIII/2, Part 3 which states that:

20. Prior to taking over the watch, the relieving officers shall satisfy themselves as to the ship's estimated or true position and confirm its intended track, course and speed, and UMS controls as appropriate and shall note any dangers to navigation expected to be encountered during their watch.

As may be expected, the presence of the Varne Bank as a navigational hazard is identified by navigational marks. The north-eastern extremity of the bank is marked by a Light Float/Vessel with an all-round red flashing light, at a height of 39 feet having a range of 15 nautical miles. The other limits of the bank are marked by east, south and west cardinal marks with lights of the appropriate characteristics. A simulation of the incident undertaken by the MAIB using the prevailing weather conditions established that the Varne Light Float was visible at a range of 10 nautical miles, and the cardinal marks at a range of 5 nautical miles.



At the time of the grounding the chief officer was assisted on the bridge by a cadet acting as lookout. Seventeen minutes before the grounding, the vessel passed close by the Varne Light Float. That navigational mark appears not to have been either noted, or its significance appreciated. Whilst the cadet observed the white flashing lights of the cardinal marks as the vessel approached the Varne Bank, he did not identify the lights nor report their sighting to the chief officer.

Shortly after the vessel had run aground, an engineering alarm sounded from which the chief officer concluded that the ship had stopped because of a mechanical breakdown. His situational awareness was

so impaired that he failed to appreciate the vessel had grounded until 19 minutes after the event.

The MAIB's investigation of this casualty has resulted in a number of recommendations concerning ECDIS systems.

The UK Maritime and Coastguard Agency is recommended to forward a submission to the IMO's Navigation, Communication and Search and Rescue Sub-committee promoting the concept of carrying out annual performance checks on all ECDIS systems used on ships as the primary means of navigations. Such a check should have identified the inoperative audible alarm on the "Ovit's" system.

Transport Malta, the vessel's flag state is recommended to propose to the Paris MOU Committee that a Concentrated Inspection Campaign be conducted on ECDIS-fitted ships to establish the standards of system knowledge among navigators using a list of pre-defined questions.

The International Chamber of Shipping (ICS) and the Oil Companies International Marine Forum (OCIMF) are recommended to develop and promulgate, in conjunction with ECDIS experts, a set of focused questions for use by surveyors and auditors when conducting audits and inspections on ECDIS fitted ships.

The MAIB's recommendation to the owners of the "Ovit", for steps to be taken to monitor the effectiveness of the ECDIS familiarisation provided to its deck officers, is a recommendation that could equally be well heeded by all Members with vessels fitted with ECDIS.

Full information about the casualty can be read in the MAIB's Accident Report which can be found at the following link:

http://www.maib.gov.uk/cms_resources.cfm?file=/OvitReport.pdf

For further information on this or other Loss Prevention topics please contact the Loss Prevention Department, Steamship Insurance Management Services Ltd.

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Acknowledgement: This Risk Alert is based upon information contained in the source publication detailed below, and produced pursuant to the kind permission of the MAIB contained within that document.

*Source publication: MAIB Accident Report No. 24/2014
Report on the investigation of the grounding of Ovit in the Dover Strait on 18 September 2013: Source material Crown Copyright 2014*