



Marine Notice 18/2012

Sound Navigational Practices

This notice aims to remind masters and navigating officers of navigational practices that should be adhered to within Australian waters (and by Australian Registered Vessels globally).

Two recent high profile groundings overseas, which have resulted in significant loss of life and/or property, and poor navigational practices observed by the Australian Maritime Safety Authority's (AMSA's) port State control (PSC) inspectors, have prompted this guidance. This guidance is complementary to other AMSA Marine Notices on the safety of navigation.

Passage Plans

Provision 32 of *Marine Order 21* implements SOLAS Chapter V Regulation 34 (*Safe navigation and avoidance of dangerous situations*), and requires that, prior to proceeding to sea, the master ensures that the intended voyage has been planned. IMO Resolution A.893 (21) *Guidelines for voyage planning* offers more detailed advice on passage planning. This includes berth to berth passage planning, including planning for areas where a pilot is on board. Passage plans can be amended, with the new plan being thoroughly checked, recorded on charts and communicated to all concerned. The above requirements must be included in the ship's Safety Management System, as per procedures established under provision 7 of the International Safety Management (ISM) Code, which is implemented by *Marine Orders – Part 58*.

The need for comprehensive voyage planning, and in particular the need to adhere to the voyage plan (or amended voyage plan), has been the focus of discussions in the aftermath of some of the recent high profile groundings. Unplanned deviations from agreed passage plans significantly increase risk.

Unplanned shortcuts to save time and distance, or unplanned deviations from the passage plan to satisfy tourists or local customs, are dangerous and unacceptable practices.

Passage planning should take into account the potential for diversions (due to change of orders or emergencies) that may occur on passage.

PSC inspectors in Australia routinely check that arriving and departing vessels have a well-documented passage plan; and for evidence of the arriving vessels' adherence to their passage plan.

Using Appropriate Charts

Provision 16 of *Marine Order 21*, which implements SOLAS Chapter V Regulation 19.2.1.4, requires all ships, irrespective of size, to have "*nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage.*"

IMO Resolution A.893 (21) *Guidelines for voyage planning* recommends the use of appropriate scale, accurate and up-to-date charts.

An appropriate chart is one that is of scale appropriate to the navigational task at hand, noting that scale determines the level of detail included in each chart. Smaller scale charts are used to depict large areas and are suitable for overall passage planning and ocean transit purposes. They have reduced levels of detail regarding aids to navigation, coastal features and infrastructure, (particularly where larger scale charts exist), while significant depth detail is also omitted in areas less than 30 metres depth adjacent the coast. As smaller scale charts (whether in paper or raster form) are neither intended for, nor suitable for, coastal navigation,

they show the limits and identity of larger scale charts which should be used when navigating closer to land, reefs and other offshore hazards.

Larger scale charts cover smaller areas, have progressively more detail and should be used when closer to land or offshore hazards. Generally, Australian charts are arranged to provide continuous coverage at a scale of 1:150,000 or larger when navigating within 24nm of land or major offshore features, except in particularly remote areas.

For coastal navigation, including when navigating in the proximity of hazards, it is imperative that the largest scale charts available are used. This is vital, as some aids to navigation and dangers may not be included on small scale charts.

When ships use paper charts, PSC inspectors in Australia check whether ships have, and are using, the largest scale charts available.

When using Electronic Chart Display and Information Systems (ECDIS) with Electronic Navigational Charts (ENCs), navigating officers should be familiar with the methods for scrolling and zooming into charts, including determining the usage codes (scale equivalent) of displayed ENCs and associated warnings and indications of inappropriate display scales. Moreover, they should know the update status of the loaded ENCs.

While the Australian AUS series charts are available through selected chart agents worldwide, the series is also partially reproduced by the UK Hydrographic Office, to improve availability of those charts covering major shipping routes and commercial ports. Mariners should refer to the Australian Index Charts AUS 5001 and AUS 5002 or the online Australian Chart Index at www.hydro.gov.au for full details of all available AUS charts. Mariners should not assume that chart coverage does not exist simply because it is not reproduced by the UKHO and not included in the British Admiralty Chart Catalogue.

Chart Accuracy and Reliability

The accuracy and reliability of a nautical chart is only as good as that of the hydrographic surveys on which it is based, noting that all charts are made up from a variety of surveys which can be of widely differing quality.

To this end, all larger scale AUS charts carry a Zone of Confidence (ZOC) diagram. The ZOC diagram enables the mariner to assess the limitation of the hydrographic data from which the chart was compiled and the degree of risk associated with navigating in a particular area. The ZOC diagrams are self-explanatory and simple to use. A more detailed explanation can be found in AHP 20 (the *Australian Seafarers Handbook* - to be replaced by the *Seafarers Handbook for Australian Waters* from 2013).

In particular, mariners navigating with small under-keel clearances should consult the depth accuracy parameters in the ZOC diagram and include them in their calculations. Mariners intending to deviate from well used routes (this applies particularly to smaller cruise ships) are advised that ZOC C covers a wide variance of survey quality. ZOC C ranges from reasonable (but older) surveys to surveys of extremely poor quality (to the point where uncharted hazards may be expected).

Responsibility for safe navigation with a pilot embarked

Masters and watch-keepers remain responsible for the safe navigation of their ships, even when a pilot is on board. The master should ensure that the bridge remains adequately manned and under the control of an experienced watch-keeper, who can ensure that the bridge team:

1. supports the pilot, by maintaining a good lookout and continual situational awareness; and having expertise in the bridge equipment and systems;
2. continually monitors the pilot's actions, being prepared to seek clarification as necessary and/or call the master. The Officer of the Watch must take whatever action is necessary before the master arrives, to maintain the safety of navigation; and
3. discuss, agree and communicate to the entire bridge team, any change to the ship's passage plan advised by the pilot. In case of any change, the original passage plan must be amended; and the amended passage plan must then be adhered to.

Good Navigation Practice

Masters and navigating officers are reminded that sound navigational practices include:

- not overly relying on any one navigational aid;
- in particular, not relying solely on Global Navigation Satellite System (GNSS) for navigation, especially when navigation can be conducted visually and/or by radar;
- the use of soundings and transits as checks for position fixes. PSC inspectors may look for evidence of this practice on ships' charts;
- fixing the ship's position at frequent and regular intervals, including when a pilot is on board;
- ensuring that the ship has the latest Maritime Safety Information (MSI) for the area by configuring the Enhanced Group Call (EGC) or NAVTEX (if applicable) receiver correctly; and
- cooperating fully with any available Vessel Traffic Service (VTS).

Owners and masters are reminded that personnel new to a ship are to be given proper familiarisation with their watch-keeping and navigational duties, in accordance with provisions 6 and 7 of the ISM Code.

Mick Kinley
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