Extract from MSC88/26 (Report of MSC88)

Operating anomalies identified within ECDIS

25.19 The Committee considered document MSC 88/25/6 (Japan, Norway, United Kingdom, ICS and IFSMA) highlighting issues that had been identified within ECDIS, which were affecting the operational performance of some ECDIS systems. Over the course of the last 9 months, two NAVAREA warnings had been issued to alert mariners to anomalies in the operation of some ECDIS systems, which related to display and alarm behaviour, in particular, in system configurations. The anomalies were discovered by "chance" inspection of ENCs within a small number of ECDIS systems and it was considered possible that other anomalies remained to be discovered. The existence of such anomalies was not surprising, given that ECDIS was the first complex, safety related, computer based navigational system. In other transport domains, it had been recognized that the testing of complex systems and equipment, by itself, could not be comprehensive enough to ensure that software errors which could affect the operational integrity were eliminated. It was likely that similar issues would arise with new complex systems in future. It was therefore suggested that Administrations or another designated body or bodies should seek to collect, investigate and disseminate information about ECDIS anomalies and:

.1 encourage seafarers to provide reports on such anomalies, with sufficient detail on the ECDIS equipment and ENC, to allow analysis;

.2 treat the identity of the reporter as confidential;

.3 agree to share information with other IMO Members on request; and

.4 issue alerts to mariners where such anomalies might affect safety of navigation.

25.20 The IHO observer, in supporting the document, stated that this was an important matter concerning the safety of navigation and, in particular, the fact that some ECDIS equipment in service at sea might not be performing optimally. The IHO had been concerned for some time that there was no specific obligation on ship operators to keep up to date the software for sophisticated computer-based systems, such as ECDIS. SN.1/Circ.266/Rev.1 was of relevance, referring to the "Maintenance of ECDIS software" which had been approved earlier during the current session when considering the NAV 56 report. When IMO had recognized Archipelagic Sea Lanes, Particularly Sensitive Sea Areas and the Emergency Wreck Marking Buoy, IHO had quickly introduced new symbology and ENC encoding rules to enable these features to be displayed in ECDIS. However, while Hydrographic Offices around the world were now encoding these features in their ENCs, ECDIS, the software of which had not been updated, would not display these features optimally, and in some cases not at all, because there was no obligation on ship operators to maintain the software by installing the necessary updated symbols presentation library. Similarly, now that it had become apparent that some ECDIS manufacturers had omitted to implement the requirement to raise an alarm or indication when a vessel approached a land area shown on a small scale chart, there appeared to be no obligatory mechanism to ensure that any offending ECDIS software was brought up to date through a software upgrade or patch. The IHO observer further stated that IHO stood ready to do all it could to alleviate any problems with ECDIS as soon as they were discovered, and especially those related to the production of ENCs by its Member State hydrographic offices. Whenever there had been data encoding issues, it had reacted quickly and effectively. The IHO was therefore calling a meeting of interested parties in early 2011 to raise awareness of the

problems recognized to exist in some ECDIS software and their causes to try to identify some short-term remedies. Expected participants would include representatives from ECDIS manufacturers, type testing authorities, Administrations, IHO and IMO. However, this meeting was unlikely to identify a long-term solution. IHO considered it to be unrealistic to expect that sophisticated software-based equipment, such as ECDIS, could be installed in ships without any upgrade during its lifetime.

25.21 A number of delegations, including an observer, also spoke on the issue and were of the view that this was an important and urgent matter and it was imperative that these problems should be brought to the attention of all concerned as early as possible.

25.22 The Committee endorsed the proposal by Japan, Norway, the United Kingdom, ICS and IFSMA and, having considered document MSC 88/WP.10, approved MSC.1/Circ.1391 on Operating anomalies identified within ECDIS.