

**International Law Commission (ILC) request for information
regarding the implementation of
paragraphs 43 and 44 of General Assembly resolution 58/240 of 23 December 2003
on oceans and the law of the sea**

Submitted by the International Maritime Organization (IMO)

Input by the Maritime Safety Division

Hydrographic services

Regulation V/9 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, which was introduced as part of the amendments to the Convention adopted in July 2002, requires Contracting Governments to maintain hydrographic services and products. In particular, Contracting Governments are required to cooperate in carrying out, as far as possible, the following nautical and hydrographic services, in the manner most suitable for the purpose of aiding navigation:

- .1 ensure that hydrographic surveying is carried out, as far as possible, adequate to the requirements of safe navigation;
- .2 prepare and issue nautical charts, sailing directions, lists of lights, tide tables and other nautical publications, where applicable, satisfying the needs of safe navigation;
- .3 promulgate notices to mariners in order that nautical charts and publications are kept, as far as possible, up to date; and
- .4 provide data management arrangements to support these services.

The IMO Assembly, at its twenty-third session in 2004, invited Governments, in addition to their existing obligations under SOLAS regulation V/9, to:

- .1 promote, through their national maritime administrations, the use of Electronic Chart Display and Information Systems (ECDIS) together with the use and further production of official Electronic Navigational Charts (ENCs);
- .2 cooperate, as appropriate, in the collection and dissemination of hydrographic data with other Governments having little or no hydrographic capability;
- .3 promote support for Governments which may request technical assistance in hydrographic matters, in consultation with, and with the assistance of, the Organization and the International Hydrographic Organization; and
- .4 establish hydrographic offices where they do not exist, in consultation with IHO.

IMO, through different bodies of the Organization, has continuously encouraged Governments, in particular coastal States, to develop or improve their hydrographic capabilities and consider becoming members of the IHO and provided technical assistance to its Member States, as and when requested in cooperation with IHO.

Electronic Nautical Charts and Electronic Chart Display and Information Systems

Ships have long been required to carry 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.

The advent of electronic charts in the 1990s provided ships with additional information, including real time information which could be displayed on screens on ECDIS.

In 2000, IMO adopted amendments to SOLAS regulation V/19 - *Carriage requirements for shipborne navigational systems and equipment* to allow an ECDIS to be accepted as meeting the chart carriage requirements of the regulation.

Recognizing the advantages of ECDIS for navigation, in 2009, IMO adopted further amendments to SOLAS regulation V/19, to make mandatory the carriage of ECDIS. The amendments entered into force on 1 January 2011, making ECDIS mandatory for new ships built after set dates and also phasing-in the requirement for existing ships.

After the mandatory carriage requirements for ECDIS in the SOLAS Convention were adopted, ECDIS training requirements were also introduced into the Seafarers' Training, Certification and Watchkeeping (STCW) Code, which entered into force on 1 January 2012.

Performance standards for ECDIS equipment and additional guidance on the use of ECDIS were also produced and disseminated through different IMO resolutions and circulars.

ECDIS is a complex, safety-relevant, software-based system with multiple options for display and integration. The ongoing safe and effective use of ECDIS involves many stakeholders including seafarers, equipment manufacturers, chart producers, hardware and software maintenance providers, shipowners and operators, and training providers.

Input by the Technical Cooperation Division

IMO, under its Integrated Technical Cooperation Programme (ITCP), works with other organizations on matters of common interest to assist developing countries to comply with international rules and standards relating to maritime safety and the prevention and control of maritime pollution, focussing on human resources development and institutional capacity-building.

Regarding cooperation with the International Hydrographic Organization (IHO), 11 capacity-building activities to improve hydrographic services and the production of nautical charts were delivered under the ITCP between 2012 to 2018. These were mostly regional activities in the Pacific, Asia, Latin America, Eastern Europe, with some national activities focussed on Sudan and Kenya in the Africa region. This includes at least three activities delivered under the United Nations "Delivering as One" initiative, whereby common technical cooperation activities were identified and delivered under a Joint IHO-IMO-IOC-WMO-IALA-IAEA-FIG initiative on capacity-building matters. IMO representatives attended meetings within the framework of this initiative. Since 2018, the number of specific activities delivered under IMO's ITCP has reduced.

A list of said activities, held since 2012, is attached.

**List of ITCP activities related to hydrographic services
From January 2012 to November 2022**

Activity title	Month	Year	Location	Outputs	Participating countries and territories	Trainees	Strategy officials	TC Fund
Needs assessment mission on aids to navigation and review of the state of hydrographic survey, nautical charting and navigational aids	April	2018	Port Sudan, Sudan	In follow-up to the needs assessment mission on aids to navigation carried out by IALA in July 2017, the real needs and requirements of Sudan in matters related to hydrography, hydrographic surveys, nautical charts and ships' routeing were identified.	Sudan			Yes
Review of 2012 needs assessment mission on Aids to Navigation, Mombasa, Kenya and review of the Hydrography and Nautical Charting, 2012 in the Republic of Kenya	October	2016	Mombasa, Kenya	The state of hydrography and nautical charting in the Republic of Kenya was reviewed and updated and a safety of navigation plan was drafted by the consultants.	Kenya			Yes

Activity title	Month	Year	Location	Outputs	Participating countries and territories	Trainees	Strategy officials	TC Fund
IMO/IHO Multi-beam training course for the safety of navigation on port operations	December	2015	Port Klang, Malaysia	Increased understanding of the specification, planning and conduct of hydrographic surveys using multi-beam systems and processing multi-beam data in support of safety of navigation in accordance with the IHO standards of survey.	Bangladesh, Cambodia, China, Indonesia, Islamic Republic of Iran, Malaysia, Myanmar, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand, Viet Nam	17		Yes
IMO/IHO regional training course on hydrographic survey and introduction to chart production	November	2014	Constanta, Romania	Participants trained on basic concepts, techniques, processes and equipment associated with hydrographic surveys and nautical cartography.	Azerbaijan, Bulgaria, Georgia, Montenegro, Romania, Ukraine	13		No
IMO/IHO regional training course on hydrographic survey and introduction to chart production	October	2014	Maputo, Mozambique	Participants trained on the basic concepts of hydrographic surveying in the light of the basic requirements for safety of navigation in the area as regulated by SOLAS.	Angola, Comoros, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, United Republic of Tanzania	23		Yes

Activity title	Month	Year	Location	Outputs	Participating countries and territories	Trainees	Strategy officials	TC Fund
Identification and development of partnership arrangements and joint activities with technical cooperation partners: Eighth joint capacity-building meeting	November	2014	Copenhagen, Denmark	Joint cooperation was developed, under the UN "Delivering as One" initiative, between IMO-IHO-IOC-IALA-IAEA-FIG in the area of capacity-building. Follow-up actions were identified.				Yes
Introduction on aids to navigation and hydrography to support safety of navigation in coastal and congested waters	November	2014	Port Klang, Malaysia	Enhanced competency of managers responsible for safety of navigation, covering obligations under IMO conventions with a focus on how aids to navigation and hydrographic services could improve the safety of navigation in coastal and congested waters.	Cambodia, China, Islamic Republic of Iran, Malaysia, Maldives, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste, Viet Nam	43		Yes

Activity title	Month	Year	Location	Outputs	Participating countries and territories	Trainees	Strategy officials	TC Fund
Regional training course on hydrographic survey and introduction to chart production	October	2014	Managua, Nicaragua	Participants gained knowledge on the importance of providing up-to-date and trustworthy navigational and hydrographic products for the safe and secure navigation of the seas and prevention of pollution. Regional harmonization of concepts was promoted, with a view to future implementation of a Regional Network on Hydrography and Cartography.	Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama	26		Yes
Basic Hydrography and Hydrographic Governance	June	2014	Suva, Fiji	In phase 1, training materials written. In phase 2, training materials implemented through the delivery of a training course which provided participants with a better understanding of basic concepts, techniques, processes and equipment associated with hydrographic surveys and nautical cartography.	Cook Islands, Fiji, Kiribati, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu	14		Yes

Activity title	Month	Year	Location	Outputs	Participating countries and territories	Trainees	Strategy officials	TC Fund
Identification and development of partnership arrangements and joint activities with technical cooperation partners: Seventh joint capacity-building meeting	November	2013	Monaco	Joint cooperation was developed, under the UN "Delivering as One" initiative, between IMO-IHO-IOC-IALA-IAEA-FIG in the area of capacity building. Follow-up actions were identified.			10	Yes
Identification and development of partnership arrangements and joint activities with technical co-operation partners: Sixth joint capacity-building meeting	December	2012	Oostende, Belgium	Under the UN "Delivery as One" initiative, joint cooperation developed between IMO-IHO-IOC-IALA-IAEA-FIG in the area of capacity building and follow up actions identified.			10	Yes