



UNITED KINGDOM

NATIONAL REPORT FOR THE
7th NORTH INDIAN OCEAN
HYDROGRAPHIC COMMISSION
MEETING

PATTAYA, THAILAND

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1. UNITED KINGDOM HYDROGRAPHIC OFFICE

UKHO Responsibilities

The UKHO is responsible for delivering the UK's treaty obligations under SOLAS V, Regulation 9, for the provision of hydrographic services for waters of UK national responsibility. The UKHO also has responsibilities to deliver hydrographic support to the UK armed forces for their operations world-wide. In addition, the UKHO contributes to UK's efforts to provide technical assistance to other countries, especially members of the Commonwealth.

1.2 New Chief Executive and changes to Organisation

Dr Wyn Williams retired as Chief Executive and National Hydrographer in July 2006. He was replaced by Mike Robinson as Chief Executive in July 2006 and Rear Admiral Ian Moncrieff as National Hydrographer and Deputy Chief Executive (Hydrography) in December 2006.

There have been further changes in the way the organisation is structured. Within the Operations Directorate, the functions of the previous Chart Branches have been split between Data Management Teams and Chart Production Teams. Further information can be provided on request.

1.3 UK and the IHO

UK is a founder member of the IHO and plays a full part in its Committees and Regional Hydrographic Commissions. Dr Wyn Williams acted as a Vice Chairman of the SPWG, and UK has fully supported the proposals which were submitted to the Extraordinary International Hydrographic Conference in April 2005. UK considers that the proposed improvements in structure and procedures of the IHO are vital to improve decision making and responsiveness to the needs of the international hydrographic community.

1.4 Changes to Production Systems

UKHO is working towards a fully digital production flowline to replace the existing analogue and digital system. The Production Systems Programme (PSP) is the UKHO project designed to build the production foundation to enable strategic growth; it consists of the following elements:

- Archive Cataloguing Project – has catalogued the UKHO working archive and captured 170,000 documents in a digital format (including geo-referencing).
- Source Data Receipt and Assessment – to manage the receipt and distribution of source data documents in a digital format and provide workflow to operational branches so that data can be assessed against products.
- Hydrographic Database – to store assessed hydrographic data which will be extracted through a single process driven by product specifications to form an initial data cut. The Chart Production Toolset will provide the cartographic tools to support production of raster and vector charting products.
- Case by case projects for specific items.

2. SURVEYS

2.1 In UK, the Maritime and Coastguard Agency (MCA) has statutory responsibility for enforcing SOLAS; its Navigation Safety Branch funds and coordinates the prioritised plan for survey of UK Home Waters in accordance with Regulation 9.2.1 of SOLAS Chapter V. UKHO supports the delivery of this Civil Hydrography Programme (CHP) by categorising the status of survey on the UK continental shelf, by producing specifications for surveys, and by appraising the results and publishing them in the Admiralty chart series.

2.2 The civil survey requirement in UK waters is divided into two main components:

- The Priority A areas are those where routine re-survey of unstable areas is required. The UKHO conducts an analysis to optimise the limits and frequency of the surveys (on annual, 3, 6 or 12 year cycles). The main areas of operation are in the S North Sea and Dover Strait. UKHO is ready to pass on to any other members of the Commission lessons which have been learnt in the management of routine re-surveys.
- Those sea areas which require re-survey to modern standards, or which have never been systematically surveyed, are assessed by a committee of national shipping interests chaired by MCA, following which an annual programme is defined. This programme is put out to contract in the commercial sector; UKHO provides oversight during the course of the surveys. Again, UKHO is prepared to provide advice on the management of a contract survey programme.

2.3 Any requests for survey assistance will be assessed within the MOD, with advice from UKHO. The Joint Venture Company, Admiralty Coastal Surveys, gives UKHO some additional flexibility to respond to such requests for shallow water areas.

3. NEW CHARTS AND UPDATES

Electronic Navigational Charts (ENCs)

ENC Production

3.1 By February 2007, the UKHO had over 800 ENC cells available for distribution through IC-ENC and the UKHO's ENC and ECDIS services. All of the UKHO's ENC production processes are ISO 9001:2000 certified.

Coverage

3.2 The main areas of geographic coverage of the UKHO's ENCs are the waters around the UK and parts of the Mediterranean Sea, the Caribbean Sea, the Red Sea and the Gulf. Extension of coverage to other parts of the world is considered as required. Within the NIOHC region, the UK has produced 77 ENC cells, with a further 10 cells currently in production; these are predominantly based on the INT chart series.

Each of the UKHO's ENCs is broadly equivalent to a paper chart panel both in terms of its area of coverage and its content.

Data Capture and Verification

3.3 Initial data capture is contracted out to a company in India (IIC). This reduces the average in-house production time for new cells from 6 to 3 weeks.

The production of updates for ENCs and new editions is done in-house in the UKHO.

Assistance

3.4 The UKHO is able to offer the following services to other national hydrographic offices:

- Production of ENCs
- Quality Assurance (QA) of ENCs
- Updating of ENCs for Notices to Mariners and New Editions
- Provision of training in ENCs and their production (see item 7)
- Assistance with the establishment of ENC production facilities
- Assistance with establishment of a Quality Management System for ENC production
- Assistance with distribution of ENCs (through IC-ENC and UKHO's ECDIS service)

ENC Distribution Method

3.5 The collection and distribution to market of ENCs is via a RENC, based in Taunton, known as IC-ENC - International Centre for ENCs (ic-enc.org), and with an office in Australia. IC-ENC is operated on behalf of various countries.

3.6 IC-ENC operates using specialist distributors (Value Added Resellers), who can package ENCs to meet the needs of the shipping market. IC-ENC considers it essential to provide comprehensive data validation, ECDIS and consistency checks prior to ENC release to ensure a supply of high quality consistent data to end-users. IC-ENC is therefore an ideal mechanism to assist nations who have ENC data ready for distribution and are either unsure of its conformity to S-57 specifications or have not yet joined a RENC.

3.7 In its capacity as an IC-ENC VAR, the UKHO has developed the Admiralty ENC Service. The service works in the same way as the UKHO's Admiralty Raster Chart Service (ARCS). The UKHO issues the latest ENC corrections every week to ensure all subscribers have fast access to all safety critical information.



3.8 The Admiralty ECDIS Service was launched in 2005; this combines ENCs and ARCS coverage to provide a seamless service. Charts are available on folio basis, with three levels of coverage (Transit, Standard and Full). It is the first digital chart service in the world to supply a combination of electronic charts for ECDIS that can fully meet the IMO ECDIS performance standards. As with the ENC Service, update information is issued every week.

Raster Navigational Charts (RNCs)

3.9 ARCS provides digital copies of paper Admiralty charts on 11 area-based CD-ROMs. Virtually all of the charts in the UKHO standard navigational chart inventory are held in Raster Navigational Chart (RNC) format for base maintenance purposes, including daily Notice to Mariners updating. 3100 charts of the UKHO inventory, including full coverage of the NIOHC region, are available for customer use in the ARCS series.

3.10 ARCS is made available to the mariner through three levels of service, of which **ARCS Navigator** is designed for the SOLAS market and provides an annual licence for charts including all weekly updates (a weekly Update CD-ROM contains all the outstanding Notices to Mariners, New Charts and New Editions for the whole of the series). The user can therefore have a completely up-to-date worldwide chart outfit on 12 CD-ROM discs. The ARCS Navigator Online Update Service became available on 1st March 2006. The service enables all ARCS Navigator users to access ARCS updates via web download or email request. This online service allows users access to safety critical chart updates as soon as they are published.

INT charts

3.11 The UKHO has around 160 Admiralty charts covering the NIOHC sea area, 74 of which are designated as INT charts in the small, medium and large scale INT scheme (Area J).

3.12 UKHO has so far published 28 of the INT charts assigned to it. Two Area J INT charts were published in 2006/7:

INT 758	GB2964	Gulf of Aden and Approaches
INT 7136	GB2373	Suez Bay to Ras Sheratib

3.13 The UKHO is currently working on New Editions of the following charts, which will be INT charts on publication and should be published in 2007:

INT 7131	GB3043	Ports on the Coast of Egypt
INT 7132	GB2375	Ashrafi Islands to Safaga and Strait of Tiran
INT 7134	GB2374	Ras Sheratib to Ashrafi Islands
INT 7135	GB333	Offshore Installations in the Gulf of Suez
INT 7139	GB2133	Approaches to Suez Bay
INT 7390	GB819	Approaches to and Galle Harbour
INT 7442	GB833	Rangoon River and Approaches

3.14 Following publication of the charts above, including all charts of the Gulf of Suez being converted to INT during 2007, it is intended to give priority to completing the INT charts of the major shipping routes in the area.

4. NEW PUBLICATIONS AND UPDATES

Paper publications

4.1 UKHO is striving to convert all 74 Sailing Directions (SD) books into Continuous Revision (CR) by the end of 2010. The majority of the series will then be maintained and republished on a 3 yearly cycle removing the need for Supplements. As at January 2007, 63 out of the 74 SD titles had been published in the CR format.

Updated paper publications

4.2 The status of Admiralty Sailing Directions in the NIOHC Region is as follows:-

New Editions Published:

NP3 Africa Pilot Vol 3 – published late 2006

New Editions to be published:

NP38 West Coast of India Pilot – scheduled July 2007

NP64 Red Sea and Gulf of Aden Pilot – scheduled early 2008

NP39 South Indian Ocean Pilot – scheduled Spring 2008

NP21 Bay of Bengal Pilot – last Supplement was published March 2004. This Pilot is due to be taken up for conversion to the new style and format mid-2007.

Digital publications / services

4.3 Admiralty TotalTide (DP550), tidal prediction software, is available on an annual subscription service. It provides fast, accurate tidal height and tidal stream predictions.

4.4 Admiralty Digital List of Lights (DP565) is a digital version of the paper publication, significantly reducing the time and effort spent manually correcting. It is now accepted by a growing number of Flag States in place of the paper Admiralty List of Lights.

4.5 Admiralty List of Radio Signals Volume 6 (Pilot Services, Vessel Traffic Services and Port Operations), recently released, substantially reduces the time and effort spent manually correcting. Flag State approvals are pending.

4.6 UKHO provides a free service known as Admiralty Notices to Mariners On-Line, providing, on a weekly basis, digital Notices to Mariners in textual and tracings form. The digital tracing service is only available through appointed Admiralty Chart Distributors. HOs who wish to access the UKHO Website can do so via www.ukho.gov.uk. The searchable NM service can be accessed directly via www.nmwebsearch.com.

4.7 The Admiralty Online Catalogue, available free of charge on the UKHO website, provides access to information concerning all commercially available Admiralty products.

4.8 The UKHO Tidal Prediction Service can provide daily predictions for both standard and secondary ports, either as times and heights of high and low waters or as heights at specified intervals upon request.

4.9 SHM for Windows is a Windows-based tidal prediction program using the Simplified Harmonic Method (SHM) of tidal prediction.

5. MSI

5.1 The United Kingdom's principal responsibility in this region is the Chagos Archipelago and more specifically Diego Garcia. The only facilities for providing Maritime Safety Information (MSI) are specifically military and are not part of the GMDSS or World-wide Navigational Warning Service.

5.2 UK maintains close liaison with the co-ordinators for NAVAREA VIII (India) and NAVAREA IX (Pakistan).

6. S-55 LATEST UPDATE

6.1 The UK welcomes the issue of IMO MSC Circular 1179 (dated 24 May 05) and the subsequent inclusion of SOLAS V, Regulations 4 and 9 (hydrographic services) in the IMO voluntary audit scheme.

6.2 UKHO has provided annual updates of information in S-55 for national waters, including UK Overseas Territories (British Indian Ocean Territories within the NIOHC area). It has also assisted Commonwealth countries, and other countries where UKHO retains primary charting responsibility, to update their entries.

7. CAPACITY BUILDING

Offer of and/or demand for Capacity Building

7.1 UK fully supports the IHO CBC strategy with its emphasis on getting Phase 1 and appropriate Phase 2 capacity in place so that coastal states can meet their obligations under Regulations 4 and 9 of SOLAS Chapter V. UK will continue to contribute resources to CBC initiatives, as well as bilateral assistance.

Training received, needed, offered

Hydrographic Data Processing and Marine Cartography

7.2 UKHO offers training in Hydrographic Data Processing and Marine Cartography, designed specifically for students from overseas HOs. The training aims to provide a sound introduction to techniques of processing hydrographic data into published form, particularly nautical charts. It lays the foundation for data assessment and chart compilation skills and is equally relevant to a conventional or digital production environment.

7.3 To increase the accessibility of the modular training programme, two courses are available (as advertised in IHO S-47 - Training Courses in Hydrography and Nautical Cartography):

- A 5 week modular training course in Hydrographic Data Processing and Marine Cartography at the UKHO.
- A compact 2 week modular training course – developed for delivery at other HOs, subject to adequate demand and facilities.

7.4 The 2-week course is tailored to the requirements of the sponsoring nation. The 5 week course places particular emphasis on the International Hydrographic Organization's capacity building programme.

ENC Training and Assistance

7.5 UKHO is keen to see the successful uptake of ECDIS using ENC, and is willing to assist other nations to produce, maintain and distribute ENCs.

UKHO now offers the following (as advertised in IHO S-47):

- A 5 week course at the UKHO which includes an introduction to ENC and S-57, and ENC Production Training which is aimed at being as generic as possible (using Hydroservice dKart Software).
- A 2 week course off site which is non-system specific and provides an introduction to ENC and S-57.

7.6 The 5-week ENC Training Course has been delivered in Spanish, with a translator present throughout the course and all course documentation available in Spanish.

Trainers from UKHO have been seconded to the South African Hydrographic Office to assist with ENC production and training.

7.7 Sponsorship is offered in the form of bursaries which cover the cost of tuition (and in certain circumstances travel, food and accommodation charges). There is a selection process, to ensure that sponsorship is offered to the countries considered to benefit most from the free tuition in line with the IHO Capacity Building programme. Sponsorship is available for all courses, subject to availability and selection.

Accreditation

7.8 In Feb 2005, the UKHO Training Course achieved accreditation at Category B level of the IHO M-8 Standard for Nautical Cartographers. Courses now offered are in Modular format to support the accreditation status. The Modules are:

- Hydrographic Data Processing
- Marine Cartography
- Electronic Navigational Charts.

This modular programme can also be delivered in country.

Other training

7.9 In addition to the courses offered above, the UKHO can also provide a range of training solutions to meet individual and organizational needs.

7.10 A new course, Phase 1 skills, is being developed to support the development of organisations and their hydrographic and SOLAS responsibilities. It is planned that the course will be available in 2007. Further details can be provided on request to Peter Westcott, Cartographic Training Manager (peter.westcott@ukho.gov.uk).

Training at Hydrographic and Meteorological Training Group (HMTG)

7.11 At the HMTG (formerly known as the RN Hydrographic School, in Plymouth), Royal Navy officers begin the hydrographic element of their combined HM training with a 12 week FIG/IHO Category B course.

7.12 After about four years at sea, officers wishing to become specialists in surveying will return to HMTG for the HM Advanced Survey Course (HMASC), which replaced the former Long Course. The HMASC lasts for 21 weeks and is accredited as FIG/IHO Category A.

7.13 Both Category A and Category B courses are open to attendance by overseas personnel (military and civilian) and are usually fully subscribed.

7.14 At HMTG there is scope for delivery of customised training for overseas naval and civilian students in Hydrography, Cartography and Data Management to meet the needs of developed and developing Hydrographic Offices. Such courses can, by mutual agreement, involve both training at the UKHO and at HMTG.

8. OCEANOGRAPHIC ACTIVITIES

General

8.1 The Maritime Environment Information Centre at UKHO maintains databases of oceanographic information collected by the RN, or exchanged with other nations. This data, together with information and products derived from it, is used primarily for maritime defence purposes.

8.2 The national repository for oceanographic data collected for scientific purposes, including data from UK sponsored research cruises anywhere in the world, is the British Oceanographic Data Centre (bodc.ac.uk) which is funded by the Natural Environment Research Council (NERC) and located in Liverpool. Various universities and NERC funded organisations within the UK carry out research cruises worldwide but the main centre for scientific oceanography is the National Oceanography Centre in Southampton (noc.soton.ac.uk), affiliated to the University of Southampton.

GEBCO/IBC's activities

8.3 The UKHO continues to support the GEBCO and IBC projects by the depositing of available digital passage sounding data at the IHO Data Centre for Digital Bathymetry, hosted by the National Geophysical Data Center, NOAA, USA. Other data may be made available following discussion with the relevant co-ordinators both to these and other similar bathymetric projects. The UKHO encourages all member states to similarly make their data available to these important projects.

Tide gauge network

8.4 Within the UK, the Proudman Oceanographic Laboratory (POL) operates the National Tidegauge Network consisting of some 44 gauges spread around the UK coastline. Under POL also resides the Permanent Service for Mean Sea Level (PSMSL) which monitors global sea levels as part of the GLOSS project.

Further information on this report can be obtained from:

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