



EAtHC9-15C

UNITED KINGDOM

NATIONAL REPORT FOR THE  
9<sup>th</sup> EASTERN ATLANTIC  
HYDROGRAPHIC COMMISSION  
CONFERENCE

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## **1. UNITED KINGDOM HYDROGRAPHIC OFFICE**

### **1.1 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 (within the EAHC area: Gambia, Ghana, Nigeria and Sierra Leone).

### **1.2 New Chief Executive and changes to organisation**

Dr Wyn Williams retired as Chief Executive and National Hydrographer in July 2006. Mike Robinson took over the role of Chief Executive on 19<sup>th</sup> July. Rear Admiral Ian Moncrieff has been appointed as National Hydrographer and Deputy Chief Executive (Hydrography); he will take up his position on 5<sup>th</sup> December.

There have been some further changes in the way our organisation is structured. Within the Operations Directorate, the functions of the previous Chart Branches have been split; we now have Data Management Teams and Chart Production Teams.

Additionally, we have established 4 separate divisions within our marketing directorate, focussing on the following 4 areas: Merchant Marine, Leisure, Defence and Consultancy. Our aim is to become more focussed on our customers' needs, to develop and expand our existing products and services in line with those needs.

### **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 agreed improvements in structure and procedures are vital to improve decision making and responsiveness to the needs of the international hydrographic community.

### **1.4 Current Issues and Priorities**

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

- Archive Cataloguing Project – to catalogue the UKHO working archive and capture 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, and it has a Navigation Safety Branch which funds and coordinates the

prioritised plan for survey of UK Home Waters in accordance with Regulation 9.2.1 of the revised Chapter V of SOLAS. 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, which are repeated 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 new Joint Venture Company, Admiralty Coastal Surveys, gives UKHO some additional flexibility to respond to such requests for shallow water areas. As indicated above, the UKHO can also contribute to project management of hydrographic surveys.

### **3. NEW CHARTS AND UPDATES**

#### **Electronic Navigational Charts (ENCs)**

##### ENC Production

3.1 By November 2006, the UKHO had 779 ENC cells available for distribution through IC-ENC and the UKHO's ENC and ECDIS services.

The UKHO has the capacity to produce around 40 ENCs per month (either as new cells, new editions, or as a mixture of both).

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. Plans to extend the coverage to other parts of the world are presently under consideration. Within the EAthC region the UK has produced Overview cells from the two INT charts for which the UK is the producer nation (INT 12 at 1:10M and INT 209 at 1:3.5M).

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 verification of data from IIC and all work on 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 IHO Special Publication S-47)
- 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 and with an office in Australia, known as IC-ENC - International Centre for ENCs ([ic-enc.org](http://ic-enc.org)). 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 comprehensive 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 EAHC 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. Charts are kept corrected by means of a weekly Update CD-ROM which 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 just 12 CD-ROM discs. The ARCS Navigator Online Update Service became available on 1<sup>st</sup> March 2006. The service enables all ARCS Navigator users to access ARCS updates via web download or email request. The provision of this online service allows users access to safety critical chart updates as soon as they are published.

### **INT charts**

3.11 The latest version of the Area G INT scheme designates the UK as Producer Nation for 27 INT charts, covering the coasts of Gambia, Sierra Leone, Liberia, Ghana and Nigeria. Of these, 7 have been published as INT charts (mainly the 1:350,000 coastal charts covering Ghana and Nigeria):

INT 209	GB 4209	New Edition 2003
INT 2806	GB 1383	New Chart 2004
<b>INT 2807</b>	<b>GB 1384</b>	<b>New Chart 2005</b>
INT 2808	GB 1385	New Chart 2004
INT 2809	GB 1386	New Chart 2004
INT 2892	GB 3321	New Edition 2004
<b>INT 2899</b>	<b>GB 3433</b>	<b>New INT Edition to be published Dec 2006</b> (Approaches to Calabar, Nigeria)

3.12 In addition to the charts listed in above, the UK has published the following national charts (which will be made into INT versions at their next revision):

GB 608	(INT 1996)	New Edition 1990
GB 686	(INT 2861)	New Edition 2003
GB 625	(INT 2862)	New Edition 2003
GB 623	(INT 2863)	New Edition 2003
GB 2478	(INT 2866)	New Edition 2004
GB 3648	(INT 2867)	New Edition 2004
GB 1980	(INT 2868)	New Edition 2004
<b>GB 3434</b>	<b>(INT 2900)</b>	<b>New Edition August 2006</b>
GB 3102	(INT 2876)	New Edition 1993
<b>GB 2812</b>	<b>(INT 2891)</b>	<b>New Edition 2005</b>
GB 3305	(INT 2893)	New Edition 1991
GB 3306	(INT 2894)	New Edition 1988
GB 3007	(INT 2895)	New Edition 1991
<b>GB 3286</b>	<b>(INT 2896)</b>	<b>New Edition 2005</b>
GB 3287	(INT 2897)	New Edition 2000
GB 3288	(INT 2898)	New Chart 1990

3.13 UK also continues to review INT charts produced by France, Spain and Portugal, for adoption into the Admiralty series if appropriate.

#### **4. NEW PUBLICATIONS AND UPDATES**

##### **Paper publications**

4.1 UKHO is striving to convert all 73 Sailing Directions (SD) books into Continuous Revision 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 November 2006, 60 out of the 73 SD titles had been published in the CR format.

##### **Updated paper publications**

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

###### New Editions Published

NP1 Africa Pilot, Vol I New Edition Published August 2006

NP67 W Coasts of Spain & Portugal Pilot New Edition published 2005

###### New Editions to be published:

NP 2 Africa Pilot Vol II New Edition due early 2008

NP22 Bay of Biscay Pilot New Edition due mid 2007

##### **Digital publications / services**

4.3 The 2006 edition of Admiralty TotalTide (DP550), premier tidal prediction software, was released December 2005. Available on an annual subscription service, TotalTide provides fast, accurate tidal height and tidal stream predictions.

4.4 A software upgrade was issued in November 2005 for the Admiralty Digital List of Lights (ADLL) (DP565) which was originally released in August 2003.

4.5 The UKHO is working on producing digital versions of the Admiralty List of Radio Signals (ALRS) starting with ALRS Volume 6 (Pilot Services, Vessel Traffic Services and Port Operations), scheduled for release at the end of 2006.

4.6 Since January 2000, the UKHO has provided a free service known as Admiralty Notices to Mariners On-Line (ANMO). Two types of data are being provided on a weekly basis, digital Notices to Mariners (Textual) and digital Notices to Mariners (Tracings). 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](http://www.ukho.gov.uk). The searchable NM service can be accessed directly via [www.nmwebsearch.com](http://www.nmwebsearch.com).

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

#### **5. MSI**

5.1 The EAthC region lies within NAVAREA II of the World-wide Navigational Warning Service. France acts as the NAVAREA co-ordinator and is also responsible for the provision of Met information. In terms of GMDSS infrastructure and services the area is divided markedly in two, with the European part well served and the African part rather sparsely served. At present there is no organisation for promulgating Coastal navigation warnings in most African states, although Local navigational warnings may be broadcast by some port authorities on VHF. The exceptions are the Cape Verde Islands where a NAVTEX station has recently been established and is now operational and Senegal where a NAVTEX station is in the process of being established.

5.2 UK made follow-up visits in November 2005 to Gambia, Ghana, Nigeria and Sierra Leone to help determine the optimum means of delivering the hydrographic services mandated in the revised SOLAS Chapter V (paragraphs 4&9), particularly to encourage the development of GMDSS facilities and the initiation of services for the promulgation of MSI in the region, initially through SafetyNET via the NAVAREA II Co-ordinator.

## **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 (none in the EAtHC 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.

7.2 UK has made substantial investments in capacity building effort in this region - see paragraph 5.2.

### **Training received, needed, offered**

#### **Hydrographic Data Processing and Marine Cartography**

7.3 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.

7.4 To increase the accessibility of the modular training programme, two courses are available:

- 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.

7.5 The 2-week course is tailored to the requirements of the sponsoring nation and has successfully been delivered to 91 students since 2001. The 5 week course places particular emphasis on the International Hydrographic Organization's capacity building programme.

#### **ENC Training and Assistance**

7.6 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:



- 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.

Both of these courses are advertised in IHO S-47 (Training Courses in Hydrography and Nautical Cartography).

7.7 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.

7.8 Sponsorship is offered in the form of bursaries which cover the cost of tuition. In certain circumstances travel, food and accommodation charges can also be sponsored. 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. Since 2003, 45 students from 21 nations will have benefited from sponsored training at the UKHO.

#### Accreditation

7.9 In Feb 2005, the UKHO Training Course achieved accreditation at Category B level of the IHO M8 Standard for Nautical Cartographers. In 2006 the courses offered will be in Modular format to support the accreditation status. The Modules are:

- Hydrographic Data Processing
- Marine Cartography
- Electronic Navigational Charts

This modular programme was also delivered in country to the Royal Malaysian Navy Hydrographic Office in 2006.

#### Other training

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

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.

#### Training at HMTG

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

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 from September 2001. 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](http://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](http://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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