



UNITED KINGDOM

GENERIC NATIONAL REPORT

TO

REGIONAL HYDROGRAPHIC COMMISSIONS

2008

A supplementary UK National Report will be submitted to each
Regional Hydrographic Commission attended by UK

NOTE: This report provides general information about the United Kingdom Hydrographic Office and its activities that may be of interest to Regional Hydrographic Commissions; the report will be revised annually. A supplementary UK National Report will be submitted to each Regional Hydrographic Commission attended by UK, to provide the information specifically relevant to that Commission. Further details of UKHO's role and other activities may be found on the UKHO website (www.ukho.gov.uk).

1. UNITED KINGDOM HYDROGRAPHIC OFFICE (UKHO)

UK Delivery of Hydrographic Services

1.1 UK is a Contracting Government to the International Convention for the Safety of Life at Sea (as amended and including its Protocol of 1988), 1974 (SOLAS). The UK Maritime and Coastguard Agency (MCA), an agency of the Department for Transport, is the UK National Maritime Administration, and is responsible for ensuring that UK's obligations under SOLAS are met. United Kingdom Hydrographic Office (UKHO), a Trading Fund agency of the Ministry of Defence (MOD), cooperates closely with MCA to ensure both appropriate provision of hydrographic services for waters of UK national responsibility, and representation of UK in international hydrographic and maritime fora. Further details of the delivery of hydrographic services in UK waters are provided in IHO publication M-16 (National Hydrographic Regulations).

In addition to meeting SOLAS obligations, UKHO has a responsibility to deliver hydrographic support to the UK armed forces for operations world-wide, and contributes to UK's efforts to provide technical assistance to other countries, especially members of the Commonwealth of Nations.

Outcome of MOD Review of UKHO

1.2 The MOD reviews UKHO's status approximately every five years to ensure that it has the correct structure and capability to meet the challenges of the next decade. The result of MOD's 2007 review of UKHO was announced to Parliament in December 2007, by the Defence Minister. The review concluded that UKHO will remain as a MOD Trading Fund and that it should remain in Taunton, Somerset; however it considered that major organisational changes would be needed to meet evolving requirements. A detailed restructuring programme has been agreed with proposals to reduce staff numbers over the next five years and to invest in a new building to improve working conditions. UKHO's retention of its Trading Fund status means that UKHO remains a government agency, owned by MOD.

Organisational Changes

1.3 Within the Operations and Production Division, Regional Teams have been created with responsibility for both data examination and chart production. They are the main point of contact for discussion of charting matters. A diagram of the responsibility area is provided in the Contacts section at the end of this report.

1.4 Organization of international activities is described below: see Contacts section for details:

- Bilateral arrangements and other international partnering matters are coordinated by Rear Admiral Ian Moncrieff, National Hydrographer, and Captain Vaughan Nail, Assistant National Hydrographer;
- UKHO's National Stakeholder and International Relations sections are being combined. UK's hydrographic representation in international fora continues to be coordinated by Mr Chris Smith and Mrs Liz Dunn.

Changes to Production Systems

1.5 UKHO continues to work towards an updated production flowline. Known as the Production Systems Development Programme (PSDP), the project is designed to build the production foundation for the future. To date:

- UKHO's working archive has been catalogued and documents captured in digital format, and geo-referenced;

- the Source Data Receipt and Assessment (SDRA) element of PSDP has now largely been implemented across the Regional Teams; the software manages the distribution and workflow across the organisation;
- the implementation of a Hydrographic Database (based around Caris HPD) and the development of associated ENC, Paper Chart and AML production tools has commenced. Successful production trials have been undertaken and the large and complex task of data population is now being considered.
- the requirements for the replacement of other legacy system are being captured, with a view to rationalising and minimising duplication of effort and inefficiencies where possible.

2. SURVEYS

2.1 Civil hydrographic surveys in UK Home Waters are carried out under a government-funded programme, the Civil Hydrography Programme (CHP), managed by the Maritime and Coastguard Agency (MCA), an agency of the Department for Transport (DfT). The CHP aims to carry out systematic hydrographic surveying, to ensure that nautical charts are based on sufficient information for safe surface navigation in the waters of the UK, outside port limits, particularly in those areas of unstable seabed. MCA manages the funding to ensure that the CHP is delivered at the best value for money, to maximize the amount of survey work carried out under the allotted funding. UKHO provides planning, technical oversight in the field, and assessment of these surveys depositing Civil Survey Data in UKHO's repository. MCA will ensure that hydrographic surveying is carried out, as far as possible, adequate to the requirements of safe navigation; MCA will manage Government funding for the CHP and commission Civil Surveys.

2.2 A number of long-term commercial contracts have been let to ensure accurate hydrographic information is gathered for updating UK's nautical charts and publications. Survey areas are prioritised using a risk analysis methodology. Routine resurveys are undertaken in areas of high seabed mobility, and analysed at UKHO, to identify the changes and to assess whether the limits of the resurvey areas and the frequency of surveys remain appropriate or should be revised.

2.3 The UK Committee on Shipping Hydrography (that is, the UK's National Hydrographic Committee) has met on an annual basis for many years and provides the necessary breadth of interests to ensure that all requirements are taken into account when prioritizing UK's civil hydrographic survey programme.

2.4 UK civil hydrographic surveys in the last year have been carried out in the following areas:

- English Channel – South Coast of SW England (in conjunction with Channel Coastal Observatory); Dover Strait;
- North Sea – East coast of Scotland; East Coast of England (East Anglia);
- Scotland – Hebrides, Orkneys, Flannan Isles and Small Isles;
- Northern Ireland – North Coast (Joint Irish Bathymetric Survey (JIBS) project in conjunction with the Irish Marine Institute (IMI));
- Republic of Ireland – North Coast (JIBS project in conjunction with IMI);
- Irish Sea – West Coast of Wales; West Coast of North West England;
- Bristol Channel – North Coast of South West England.

2.5 The Royal Navy (RN) Surveying Service carries out both hydrographic and oceanographic surveying around the world. The RN Surveying Flotilla comprises five survey vessels: HMSML Gleaner (inshore/coastal); HMS Roebuck (coastal), HMS Echo and HMS Enterprise (multi-role Vessels Hydrographic/Oceanographic (SVHOs); and HMS Scott (ocean). Survey work in Antarctica is carried out by the RN's Ice Patrol Ship, HMS Endurance, whose mission includes patrol and survey in the Antarctic and South Atlantic, supporting the global community of Antarctica. Details of the ships, their equipment and capabilities are on the Royal Navy website (www.royal-navy.mod.uk).

2.6 The UKHO has developed a vertical surface separation model for UK and Irish Waters called VORF (Vertical Offshore Reference Frame). VORF will deliver the capability to transfer heights and depths from one vertical reference system to another, allowing the direct use of depth data from surveys which is referred to a WGS84 compatible datum rather than Chart Datum and

thus enabling Hydrographic surveyors to survey without the need to measure tides. VORF is currently being tested to ensure that it fully meets accuracy requirements prior to its release for operational use.

2.7 Any requests for survey assistance from other nations will be assessed within the MOD, with advice from UKHO. UKHO can also contribute to project management of hydrographic surveys.

3. CHARTS AND PUBLICATIONS

3.a. CHARTS

3.a.1 UKHO's worldwide series of charts is available in paper and, increasingly, in digital format. The paper chart folio comprises approximately 3,300 charts, virtually all of which are held in Raster Navigational Chart (RNC) format for base maintenance purposes, including daily Notice to Mariners updating. These RNCs are made available to users as ARCS in eleven area-based CD-ROMs. The portfolio of ENC's is growing steadily. Further information on UK's chart portfolio is available from the UKHO website.

3.a.2 In 2007, UK published a total of 403 standard navigational charts, a figure which includes 113 International (INT) Charts. The following table gives a breakdown of these figures by publication type, and includes the numbers of adopted charts:

	Totals by publication type (with number of adopted charts)	INT by type (with number of adopted charts)
NC	112 (includes 95 adopted)	6 (includes 5 adopted)
NE	273 (includes 123 adopted)	102 (includes 63 adopted)
NEILOB	18 (includes 4 adopted)	5 (includes 2 adopted)
Total	403 (includes 222 adopted)	113 (includes 70 adopted)

3.a.3 Further details of charts published and charts scheduled for publication will be provided in the supplementary UK National Report to each regional hydrographic commission UK attends.

ENCs

3.a.4 UKHO, has completed ENC production of UK home waters and is near to completing the ENCs for other areas where it is Primary Charting authority. In addition UKHO is engaged on a programme of revision of previously issued ENCs to make sure that they fully meet the latest IHO consistency standards. There are now over 900 UK produced cells on issue; full details of these are provided on the UKHO website where there is both an online catalogue and a more functional downloadable digital catalogue (see below).

3.a.5 UKHO, along with other European hydrographic offices, was a founder member of the International Centre for ENCs (IC-ENC) RENC, which is the route to market for ENCs of waters of UK national responsibility. IC-ENC concentrates its efforts on the validation and consistency of ENC data and leaves the marketing of ENCs to the shipping industry, to its value added resellers. Details can be found on the IC-ENC website (www.ic-enc.org).

3.b. PUBLICATIONS

3.b.1 UKHO produces a worldwide portfolio of Admiralty nautical publications in paper form, with . The portfolio includes Sailing Directions (74 volumes), Tide Tables (4 volumes), Lights List (12 volumes), List of Radio Signals (6 volumes - 12 books, the Nautical Almanac, Weekly Notices to Mariners, the Annual Summary of Notices to Mariners, and the Mariner's Handbook, together with a number of catalogues and a range of miscellaneous publications. Further information is provided in the Catalogue of Admiralty Charts and Publications (NP 131) and in Admiralty Digital Catalogue on the UKHO website.

Paper Publications

3.b.2 New editions of the Tide Tables, Lights List, List of Radio Signals, Nautical Almanac, the Annual Summary of Notices to Mariners and the catalogues are produced annually. For other publications, new editions are produced according to priority and the amount of change of data

within each publication. Most volumes of Sailing Directions are updated by new edition every 2-5 years. Between new editions, items for Sailing Directions, the Lights List and List of Radio Signals that are considered to require urgent promulgation, are issued in the various sections of Weekly Notices to Mariners. A section in the Mariner's Handbook (NP 100) and the pamphlet "How to Keep your Admiralty Charts up-to-date" (NP 294) explain how to apply these updates to the relevant products.

Digital Publications

3.b.3 UK continues to develop digital equivalents of, and supplements to, its existing paper publications; these have the two main advantages to the mariner of providing additional functionality and minimising the task of updating. Current digital publications are Admiralty digital catalogue of charts and publications, Total Tide, Admiralty Digital List of Lights, Admiralty Digital Radio Signals Volume 6 (ADRS6) and Admiralty Digital Notices to Mariners. These digital publications are accepted by the UK Maritime and Coastguard Agency and many other national maritime authorities as being at least equal to their paper equivalents and thus meet the carriage requirements for these products specified in SOLAS V Regulation 19.2.1.4. a.

3.b.4 Digital Notices to Mariners are available in several forms including: a facsimile (pdf) copy of the paper notices published on the UKHO website a week before the paper copy is available for distribution, a searchable NM service available on the UKHO website and also through www.nmwebsearch.com and electronic courier services where customised datasets of NM text, blocks and tracings are provided directly to ships at sea by licensed Admiralty distributors.

3.b.5 The Admiralty digital catalogue may be downloaded free from the UKHO website; it includes details of all paper and digital charts and publications and is updated weekly. It is a useful tool to check on the ENC coverage within the region and to show the latest edition dates of both charts and publications.

4. MSI

4.1 The UK aims to support and satisfy the requirements for urgent navigational data for all vessels in waters of UK responsibility; these include waters around the UK and the fourteen British Overseas Territories around the world.

4.2 Within the Global Maritime Distress and Safety System and the World-Wide Navigational Warning Service, the UK acts as NAVAREA I Co-ordinator (UKHO) and provides an Issuing Service within METAREA I (UK Meteorological Office). Close links are maintained with the other NAVAREAs/METAREAs to ensure relevant information is exchanged and broadcast as necessary.

4.3 The UK contributes at all international fora that consider MSI matters, specifically IHO CPRNW, WMO/IOC JCOMM ETMSS and IMO COMSAR. For some years the UKHO, on behalf of the UK, has also provided the chairman and secretary of the IMO International NAVTEX Co-ordinating Panel.

5. CAPACITY BUILDING

Offer of and/or demand for Capacity Building

5.1 UK fully supports the IHO CBC strategy and particularly its emphasis on getting Phase 1 and appropriate Phase 2 capacity in place to enable coastal states to meet their obligations under SOLAS Chapter V Regulations 4 and 9. UK will continue to contribute resources to both CBC initiatives and to bilateral assistance.

5.2 UK has participated in numerous technical visits and workshops, in several RHC regions.

Training received, needed, offered

Training provided by UKHO

5.3 Details of the training opportunities currently offered by UKHO are provided on the UKHO website. Training is offered in Marine Cartography, Hydrographic Data Processing, Chart Correction, S-57 and ENC production. A newly designed Phase 1 skills course will be offered in 2008.

5.4 The UKHO has been recognised by the International Advisory Board as meeting its M-8 Standard of Competence for Nautical Cartographers - Category B. for its Hydrographic Data Processing and Marine Cartography course with specialism The Electronic Navigational Chart (ENC). The course is currently offered in a modular format:

- Marine Cartography
- Hydrographic Data Processing
- The Electronic Navigational Chart

Each module is of five weeks duration and students will be issued with a certificate of attendance for each module. On successful completion of all three modules, students will be issued with a certificate of programme completion.

ENC Training and Assistance

5.5 UKHO strongly supports the successful uptake of ECDIS using ENC, and is happy to assist other nations to produce, maintain and distribute ENCs. The following courses, detailed in IHO S-47 (Training Courses in Hydrography and Nautical Cartography), are provided:

- A 5 week course at the UKHO which includes an introduction to ENC and S-57; and ENC Production Training, made 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.

5.6 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 such courses, subject to availability and selection.

5.7 Training courses can be delivered at the UKHO's training centre or for larger groups the trainers can conduct courses in the organisation's offices. In addition, the training team can tailor bespoke courses to meet specific needs. Further details can be found on the UKHO website or obtained by contacting UKHO's Cartographic Training Manager directly (peter.westcott@ukho.gov.uk).

Training at Hydrographic and Meteorological Training Group (HMTG)

5.8 HMTG (formerly known as the RN Hydrographic School) in Plymouth delivers courses which are nationally and internationally certified, with accreditation provided by the International Hydrographic Organization (IHO), the World Meteorological Organization (WMO), The University of Plymouth, the National Vocational Qualification (NVQ) Council and the Institute of Marine Engineers, Scientists and Technicians (IMarEST).

5.9 Courses include the 14 week hydrographic element of RN Officers' combined HM training, FIG/IHO Category B course. After about four years at sea, officers wishing to become specialists in surveying return to HMTG for the HM Advanced Survey Course (HMASC), which has replaced the former Long Course. The HMASC lasts for 21 weeks and is accredited as FIG/IHO Category A.

5.10 Both Category A and Category B courses are open to attendance by overseas personnel (military and civilian) and applications are encouraged for these highly competitive courses.

5.11 HMTG has scope to deliver customised training for overseas naval and civilian students in Hydrographic Survey Planning, Data Gathering and Data Processing as well as initial 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.

6. S-55 LATEST UPDATE

6.1 UK has established internal procedures to ensure the annual updating of the S-55 entries for UK Home Waters and its Overseas Territories. The most recent update was posted on the IHO website in May 2007.

6.2 UK has also provided assistance to update S-55 entries to countries where UKHO retains the primary charting responsibility, recognizing that local input remains critical to the maintenance of S-55 as an up-to-date and authoritative reference document.

7. OCEANOGRAPHIC ACTIVITIES

7.1 UKHO's Maritime Environment Information Centre (MEIC) maintains databases of oceanographic information collected by the RN, or obtained during exchange with other nations. Data exchange is an important source of data and so MEIC are always keen to discuss new exchanges. Through participation in the Argo project and in the UN's International Oceanographic Data Exchange (IODE), MEIC work with the international oceanographic community. On behalf of the RN MEIC make periodic releases of data to international data centres including US NODC, for inclusion in the World Ocean Database, and British Oceanographic Data Centre (BODC).

7.2 The UK national repository for oceanographic data collected for scientific purposes, including data from UK-sponsored research cruises anywhere in the world, is BODC (www.bodc.ac.uk), funded by the Natural Environment Research Council (NERC), and located in Liverpool. The main centre for scientific oceanography is the National Oceanography Centre in Southampton (www.noc.soton.ac.uk).

7.3 UKHO continues to support GEBCO and IBC 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.

7.4 Global sea levels are monitored as part of the GLOSS project, by the Permanent Service for Mean Sea Level (PSMSL) which also resides under POL.

8. CONCLUSION

UKHO continues its commitment to carrying forward hydrographic activities through the work of the IHO's Regional Hydrographic Commissions, and notes that each exhibits its own particular opportunities and challenges.

Taunton, March 2008

UKHO POINTS OF CONTACT

UKHO Website: www.ukho.gov.uk

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For all matters related to charting and hydrographic data, please contact the head of the appropriate Regional Team shown below:

