8th IHO CAPACITY BUILDING SUB-COMMITTEE MEETING
NEW ORLEANS, USA, 14-16 JUNE 2010

CABACITY BUILDING PROVISION – COURSES, SEMINARS, WORKSHOPS

Seminars

One technical seminar for Chairmen of National Hydrographic Committees, National Maritime Safety Committees or equivalents, was held in La Réunion, France, from 14 to 15 September 2009. The objectives of the seminar were to raise awareness of the importance of hydrography and to identify the way to establish a hydrographic structure in Coastal States. 22 participants from 14 countries attended the seminar (Angola, Comoros, France, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Norway, Portugal, Seychelles, Tanzania, UK and USA). – ANNEX 1

Short Courses and Training:

- Chart Production and ENC Training Course (Brazil, 26-28 October 2009) – **ANNEX 2**
- MSI Training Technical Course (Ghana, 15-17 September 2009; Oman, 26-28 October 2009; Namibia, 13-15 April 2010) – **ANNEX 3.**
- QA on Multibeam Surveying and Post Processing Course (Philippines, 18-21 August 2009) – **ANNEX 4**.
- QA on ENC Production Course (Thailand, 23-27 August 2009) – **ANNEX 5.**
- MultiBeam Course (Brazil , 24-28 November 2009) – **ANNEX 6.**
- IHO Course in Marine Cartography (Singapore, 22 February – 26 March 2010).**- ANNEX 7**
- Survey Attachment On the Job Training (SAIHC) - MAR/JUN on board the "*Beautemps-Beaupré"*
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In preparation

- MSI Regional Workshop SWPHC (Sydney, 17-19 August)
- Regional Hydrographic Survey & Nautical Cartographic Course SWPHC (Papua New Guinea, 11-22 October)
- 2-weeks Regional Training Course on basic ENC and ENC Production (MACHC) in join cooperation with IMO (Jamaica 6-17 September)
- 2nd Course in Hydrographic Data Processing and Marine Cartography, including specialism in Electronic Navigational Chart. (UKHO, Taunton, UK, 6 September – 17 December 2010)

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MINISTÈRE DE LA DÉFENSE

SERVICE HYDROGRAPHIQUE
ET OCEANOGRAPHIQUE
DE LA MARINE

DIRECTION DE LA STRATEGIE,
DE LA PLANIFICATION ET
DES RELATIONS EXTERIEURES

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N° 047 SHOM/DSPRE/REX/NP

NHC Seminar Report

Subject : Report of the Seminar organized on the occasion of the 7th Conference of the Southern Africa and Islands Hydrographic Commission of the International Hydrographic Organization.

Reference : SAIHC CL 01/2009 dated 21 April 2009.

Enclosures : Annex 1: List of participants to the seminar.
Annex 2: Seminar programme.
Annex 3: Questionnaire statistics.

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The 7th Conference of the Southern Africa and Islands Hydrographic Commission (SAIHC) was preceded by a seminar for Chairmen of National Hydrographic Committees, National Maritime Safety Committees or equivalents, held in La Réunion, France, on Monday 14 and Tuesday 15 September 2009. The objectives of the seminar were to raise awareness of the importance of hydrography and to identify the way to establish a hydrographic structure in Coastal States.

Participants

Salustiano Ferreira, Manuel Narciso (Angola); Anfane Said (Comoros); Gilles Bessero, Jean Laporte and Gwladys Theuillon (France); Rija Andriamihamina, Bruno Razafindrazaka-Andriamparantsoa (Madagascar); Michael Mzunzu, Daniel Gondwe (Malawi); Mohammed Roojee (Mauritius); Humberto Mutevuie, Ilidio Goenha (Mozambique); Tony Raw (Namibia); Noralf Slotsvik (Norway); Ventura Soares (Portugal); Michael Rosette (Seychelles); Igniatious Nhnyete (Tanzania); Paul Canham, Graham Denslow (UK); Stanley B. Harvey, Jerry Gathof (USA).

The representatives of South Africa could not attend the meeting because of unforeseen events. In consequence, Gilles Bessero acted as chair of the seminar.
Other participants from various organiszations attended the seminar: Alexandros Maratos (IHB), Neil Guy (GEF-WIO/MHD /CMC), Raj Prayag (GEF-WIO/MHD /CMC & Indian Ocean Commission), Gurpreet Singhota (IMO), Dimitri Travin (UNESCO/IOC).
Survey companies were also represented by Maarten Peters (Caris); Art Kleiner, Aubrey Price (C&C Technologies); Michael Bergmann, John K. Klippen, Justin Hornby (Jeppesen); Ephan Potgieter (Underwater Surveys). Exhibits were presented by the survey companies (Caris, C&C Technologies, Jeppesen, Underwater Surveys).

The list of attendees including all participants' details is attached in annex 1.
The final programme of the seminar is given in annex 2.
Participants were requested to fill a questionnaire in order to better understand their expectations from this seminar. Statistics resulting from this questionnaire are given in annex 3.

All the presentations given during the seminar have been copied on a CD-ROM which will be distributed to the attendees.

Monday 14 September

Introductory words: welcome and opening address

Jean-Marie Coupu, Head of Maritime Affairs in La Réunion (France), welcomed the participants on behalf of the Préfet of La Réunion and whished the participants a fruitful seminar.

Gilles Bessero, acting chair of the seminar and representative of France, the hosting nation, in the International Hydrographic Organization, gave the opening address. He noted that hydrography in the SAIHC region is complex whereas the maritime stakes are huge. He recalled the objectives of the seminar: to raise awareness of the importance of hydrography for safety of navigation and national economic development, and to identify the way to establish a hydrographic structure in developing countries. He stressed that regional and bi-lateral co-operation under the aegis of the International Hydrographic Organization (IHO) and in liaison with other organizations is the key to achieve this realistically and sustainably by promoting and assisting in the development of national hydrographic committees.

Alexandros Maratos, President of the Directing Committee of the International Hydrographic Bureau, emphasized that the two official languages of the IHO, English and French, well fit in with the seminar attendees. He gave the new definition of hydrography as approved during the 4th Extraordinary International Hydrographic Commission in June 2009. He stressed that hydrography is not only a necessity but also an obligation.

Presentation of the objectives of the seminar *(Alexandros Maratos, IHB)*
The main objective of the seminar is to make sure that countries within the region are well aware that the provision of hydrographic services is an international obligation under treaty law affecting all Member States of the International Maritime Organization (IMO) and that they take the necessary steps to meet their obligation, noting that most African countries are IMO Member States but are not IHO Member States. The importance of hydrography for

safety of navigation and national economic development was raised through data collection, charts production and maritime safety information. More than 80% of the world goods by volume are transferred by maritime transport. Penalties for inactivity in hydrography were reminded: risk of increase in marine accidents, lack of confidence from shipping companies in ports and routes, limitation of international trade, missed economic opportunities, environmental impacts, liability and litigation. He invited delegates to express assistance requests in order to establish their own hydrographic capability to meet their obligations under SOLAS Regulations.

Morning session

Importance of nautical information

Hydrography: International Obligations on States (*Alexandros Maratos, IHB*)

Obligations and commitments under SOLAS and UN Resolutions were developed and States responsibilities were stressed:

- Mariners obligations
  SOLAS (V/19) carriage requirements for navigation equipment,
  SOLAS (V/27) nautical charts and publications,
- Government obligations
  SOLAS (V/9) provision of hydrographic services,
  SOLAS (V/4) navigational warning.

The lecturer highlighted the role of IHO in assisting countries of the SAIHC area to meet their SOLAS obligations. These obligations could be met directly via governments, bi-lateral assistance from other States or using commercial support providers.
Hydrographic survey is a necessity if Coastal States are to meet their obligations under the SOLAS Convention for safety of life at sea and protection of the environment but it is also an important means to facilitate economic development. The benefits of hydrography for Coastal States were then presented.

Roles and Functions of the IHO (*Alexandros Maratos, IHB*)
Roles, functions and organization of the International Hydrographic Organization, the International Hydrographic Bureau (IHB) and the Regional Hydrographic Commissions (RHC) were explained.
The benefits of RHC membership (as Member States, associate members or observers) were emphasized in relation to benefiting from Capacity Building assistance. IHO membership should be similar to IMO**.**

IHO Capacity Building and Developing Hydrographic Capabilities (*Alexandros Maratos, IHB*)
The building of hydrographic capacity allows Coastal States of the SAIHC region to meet their SOLAS international obligations. Capacity Building Funds, activities and work program were introduced. Capacity Building principles and processes are built around the four following steps: awareness (raising importance of hydrography), assessment (identification), analysis (prioritization) and action. The last step, corresponding to the building of hydrographic capacity was then developed:

- Collection and circulation of information to maintain existing charts and publications: every State can (and must) get to this phase.

- Creation of a survey capability. This phase requires the State's commitment to sustain capability and funding for personnel and equipment or contract surveys. IHO CBSC can assist in training/technology transfer.
- Production of charts and publications. Independent national capability at this level requires high levels of investment and continuous support in the long term.

In order to conduct hydrographic activities, each country shall determine what infrastructure already exists for Maritime Safety Information, hydrographic survey and provision of navigational charts. This can be achieved through assessment visits, technical workshops and seminars, various projects (including co-operation with other International Organizations). Examples of bilateral assistance to improve hydrographic capabilities were given.

IMO Objectives and its role in the safety of navigation (*Gurpreet S. Singhota, IMO*)
The IMO and IHO co-operation was outlined. IHO's involvement to promote safety of navigation and protection of the marine environment through Capacity Building, the development of international standards for hydrography, inputs to IMO's technical bodies… was highlighted. Inversely, IMO whose mandate is related to safety of navigation and protection of environment can promote hydrography but cannot take decisions instead of governments. SOLAS Chapter V Resolutions were developed. Current status of long-range identification and tracking of ships (LRIT) implementation was given.

In order to answer the question raised by the President of the IHB Directing Committee "Why IMO Members are not IHO Member States and how to improve IHO membership in Africa?" a discussion closed the first theme.
The complexity to apply for IHO membership was stressed.
Following a question of the representative of Mozambique, the feasibility to include IHO in the UN structure was discussed (because IMO which depends on UN and IHO are closely linked). It was recalled that this issue had been addressed by the IHO Strategic Plan Working Group (SPWG) which identified three options: statu quo, join the UN structure as a specialized body and join the IMO. After analysis, it seemed not appropriate for IHO to join the UN system with the risk to get embroiled in political issues. It was agreed that the IHO should remain an independent intergovernmental organization of its own right. This decision does not affect the close link between IMO and IHO.
The main obstacle to join IHO remains the lack of resources (manpower and equipment). Malawi stressed the difficulty to access training. It was recalled that training facilities is not restricted to military structures. In Seychelles, the hydrographic tasks which requires a lot of resources is considered as a load. In consequence, it is not identified as a priority for the government. In numerous Coastal States of the SAIHC region, it is difficult to identify the proper hydrographers to be trained, to find them a job at the end of the training period and to keep them in the national hydrographic structure. The problem of sustainability was raised.

Afternoon session

The basic activities of hydrographic offices: the IHO M-2 publication related to National Maritime Policies and Hydrographic Services.

The importance of accurate nautical information *(Paul Canham, UK)*
Phase I of the Capacity Building: collection and circulation of information to maintain existing charts and publications

The lecturer developed the context and stakes. Penalties for inactivity and benefits for accurate nautical information (charts, publications and services) were highlighted.
Under the framework of safety of navigation, nautical charts and publications support the mariner for passage planning and navigation and provides port and harbour information. Safety of navigation also depends on the distribution of available, accurate and timely nautical information through urgent radio navigational warnings (RNW) and documentation updates.
The definition of Maritime Safety Information and the content of nautical information were given. NAVAREA warnings were developed. In the SAIHC region, South Africa acts as NAVAREA VII coordinator and India as NAVAREA VIII coordinator.
The importance of maintaining nautical charts and publications up-to-date was stressed. This task is carried out through Notices to Mariners for a permanent, temporary or preliminary update and through New Editions.
To conclude, a vast amount of nautical information, services and products is available to the mariner. The importance of keeping products up-to-date was stressed in relation to the international obligations and responsibilities of Coastal States. Relevant information must be provided to the charting authority.

Methods and instruments to optimize surveys *(Jean Laporte, France)*
Phase 2 of the Capacity Building: creation of a survey capability
The different steps of the roadmap to establish a prioritized survey plan was presented. Works to be achieved shall be identified and prioritized, regarding what exists and what needs to be done, the resources and the user needs. Once the national survey plan is formulated, the survey proceeding is articulated around the following axis: review of information available, delineation of area to be surveyed, selection of the appropriate equipment, validation and storage of data. Strategy adopted for a survey depends on the objectives and means available.

Nautical chart production *(Graham Denslow, UKHO)*
Phase 3 of the Capacity Building: production of charts and publications
User requirements shall be established. Different users have different needs (scale, accuracy). IHO M-2 publication and the benefits of establishing a national chart series were introduced. Chart scheming and chart content were highlighted. The different steps of the chart production were presented: compilation, verification, validation, printing, distribution and maintenance up-to-date. Existing charts (accuracy, age, quality, data source) shall be identified with critical evaluation. The importance of source data types was stressed.

Data management – a separate activity? *(Noralf Slotsvik, Norway)*
Nautical information must be available timely and up-to-date.
Coastal States of the SAIHC with limited in-house capability resort to external partners (co-operation, regional programs contracts) for surveying and chart production. Nevertheless, sometimes no data is available at the national hydrographic office whereas a lot of information already exists from various sources. In consequence, data management should be a core activity of the national hydrographic infrastructure, while data collection and nautical products can be shared with other partners. In addition to the three phases of the IHO M-2 publication developed previously, the establishment of a data management solution should be the second step in the national maritime policies and hydrographic services process.

A discussion on the necessity to transmit existing nautical information (from local port authorities, industry...) to national hydrographic office and/or national charting authorities (under SOLAS Chapter V Regulations) closed this theme. The objective is to make the nautical information available. Agreements between countries and charting authorities should

be formalized. The example of South Africa was given to illustrate a working interaction between hydrographic office and ports.

The Organization of a National Hydrographic Office

Economic impact and benefits of hydrography *(Stanley Harvey, USA)*
Noting that the maritime traffic increases and that hydrography in Africa is often inadequate (unsuitable scale and accuracy, documentation not up-to-date…), the objectives are to convince governments to invest in hydrography as an enabler of economic growth and to obtain governments' commitment. To demonstrate this important issue, the various benefits of hydrography that impact numerous domains were developed: marine transportation and safety of navigation, marine resources, environmental concerns, maritime boundaries, law enforcement and defence.
In conclusion, investing in hydrography saves lives, supports national security and economic prosperity and contributes to protection of the environment.

US naval oceanography *(Stanley Harvey, USA)*
The organization of the different hydro-oceanographic services in the United States was explained. NAVOCEANO activities, fleet, equipments were presented. Involvement in Capacity Building and training opportunities were highlighted.

IHPT *(Ventura Soares, Portugal)*
Activities assigned to the national hydrographic offices were identified: navigation aids, MSI, cartography, surveying. In term of Capacity Building, resources shall be made available; partners and funding shall be established to implement a hydrographic structure. IHPT perspectives of co-operation with African Portuguese speaking countries are based on education, training and technical assistance. The specification by hydrographers of adapted fleet and equipment even modest is the key to develop a hydrographic capability.

INAHINA *(Ilidio Goenha, Mozambique)*
Created in 1989, INAHINA is the young national hydrographic service and light house authority of Mozambique. Organization, policies, budget, personnel management and training were highlighted.
The paper chart production process was described and the use of S-44 IHO standard requirements was mentioned. However, INAHINA experiences difficulties in keeping pace with the evolution of IHO standards due to the training requirements, budget constraints and upgrading of equipment especially for ENC production. One solution to overcome this difficulty is the co-operation with other hydrographic offices.

Tuesday 15 September

Morning session

Application of hydro-cartographic products and services

Restructuring of a national hydrographic service *(John Klippen, Jeppesen)*

The Hydrographic Institute of the Republic of Croatia (HHI) and the Norwegian Hydrographic Service (NHS) defined the CRONO HIP (CROatian-NOrwegian Hydrographic Information Project) joint project which aims at providing the HHI with new technologies and methods for data collection, data management and chart production.

MINTEC – Maritime Infrastructure New Technology for production/management of ENC and paper Charts *(John Klippen, Jeppesen)*

The MINTEC program will provide the Norwegian Hydrographic Service (NHS) with an interface to existing back-office system and all means for production and maintenance of ENC and paper charts. Production and maintenance are based on sources and revisions collected from the primary data base and other miscellaneous formats. The MINTEC system will also support data handling through OGC (Open GIS Consortium) services (Web Map Services, WMS, and Web Feature Services, WFS).
General information on the project was given.

SDI developments in Europe (*Paul Canham, UK*)

The European directive INSPIRE (INfrastructure for SPatial Information in Europe) which aims at establishing an infrastructure for marine and geographic data was described. This will promote access to metadata, interoperability of spatial data sets, network services, data sharing, …
The role of the IHO Marine Spatial Data Infrastructure Working Group (MSDIWG) was also highlighted
The UK Marine Environmental Data and Information Network (MEDIN) was presented. The objective is to improve knowledge of, access to and dissemination of marine data across all sectors related to the marine community in United-Kingdom.

Introduction to MSDI: SHOM practical experience, the INFRAGEOS project *(Jean Laporte, SHOM and Maarten Peters, Caris)*

The benefits of marine spatial data infrastructures (MSDI) in hydrographic offices were highlighted. The example of INFRAGEOS-H project which aims at procuring an interoperable data base management system capable of providing better access to optimised georeferenced databases and improved information processing was given. The INFRAGEOS-H project is the first step in a broader process consisting of grouping together within a coherent system all SHOM databases.

Jeppesen Marine: navigational and logistic solutions *(Justin Homby, Jeppesen)*

A presentation of Jeppesen company, products and services was given.

Distribution of hydrographic data & products *(Paul Canham, UK)*

Admiralty products and the corresponding distribution network were presented. Based on the example of IC-ENC, RENC organization and benefits of membership were highlighted.

These presentations gave raise to a question. Which benefits can Coastal States gain from these tools acknowledging that the principal difficulty for national hydrographic services is to access existing data from port authorities, industry...? Moreover, are these sophisticated infrastructures suitable for developing countries where maritime safety has a low priority compared to other needs and where it is difficult to persuade the appropriate government authority?

Regional initiatives, projects and opportunities

Western Indian Ocean GEF - Marine Highway Development & Coastal and Marine Contamination Prevention Project *(Neil Guy, GEF-WIO/MHD/CMC)*
The West Indian Ocean is a region characterized by a high maritime traffic (30% of world crude oil), howling winds and strong currents with marine resources and fisheries. In order to increase the safety of navigation and the protection of environment, the marine highway and coastal and marine contamination prevention project was created. The main objectives are the building of capacity in the region and the assistance of countries to undertake technical work needed to meet their national obligations under the SOLAS Regulations. The project components and progress were described.

Capacity Building for countries in transition *(Neil Guy, GEF-WIO/MHD/CMC)*
To complete the Capacity Building theme already developed during the seminar, elements of context were given to better understand the situation in Africa. Despite of SOLAS Chapter V Regulations, maritime safety has a low priority in developing countries. African States need assistance with maritime safety information. The services necessary to improve trade and to ensure the safety of life and the environment need to be updated. Most ports, port approaches and critical areas in Africa need urgent and adequate hydrographic surveys. Confidence of international shipping in the information available is low.

Afternoon session

Regional initiatives, projects and opportunities (continued)

Western Indian Ocean GEF - Marine Highways: project presentation *(Raj Prayag, GEF-WIO/MHD /CMC & Indian Ocean Commission)*
The marine highway development and marine and costal contamination prevention project was presented according to the following axis: environmental challenges, risks, objectives and regional coordination. The project implementation is articulated around different components:

- Development of a regional marine highway and institutions
- Capacity Building for prevention of coastal and marine contamination
- Building capacity for regional oil spill response
- Port state control, fisheries monitoring, and project coordination and management

Components implemented by the Indian Ocean Commission were highlighted.

The Indian Ocean Commission today and tomorrow *(Raj Prayag, GEF-WIO/MHD /CMC & IOC)*
The Indian Ocean Commission's organization, budget, strategy, partnerships and funding were explained. Perspectives for the future were developed.

Improving Emergency Response to Ocean-based Extreme Events through Coastal Mapping Capacity Building in the Indian Ocean *(Dimitri Travin, UNESCO/Intergovernmental Oceanographic Commission)*
COAST-MAP-IO project goals, benefits, main achievements, sponsors, partnerships and perspectives were presented.

Manufacturers' presentation
A presentation of C&C technologies company, products and services was given.

Seminar assessment and conclusion

The seminar chair thanked the speakers for their thorough presentations.
In accordance with procedure 5 developed by the IHO Capacity Building Sub Committee which provides guidelines and rules to assess the performance and success of all Capacity Building efforts, the chair organized a wrap-up session to collect feedback, to determine if participants expectations were met, to asses the seminar and to identify future perspectives.
As the assessment should be carried out according to performance indicators rated on a scale from 0 (low) to 5 (high), attendees from developing Coastal States were requested to evaluate the following points.

Question 1: Did the seminar raise the importance of safety of navigation and are you aware of this issue?
All polled people gave a five. Nevertheless most participants were already aware of this issue and of the national obligations under SOLAS Regulations.

Question 2: Will this seminar help you in the establishment or development of a hydrographic infrastructure in your country?
All polled people gave a five. Most countries have already established a hydrographic infrastructure; the issue is to determine a roadmap to go further. Several countries raised the difficulty to be recognized at the governmental level as a proper hydrographic institution. The practical issue is a permanent need.

Question 3: What are the next steps to consolidate what already exists?

- Angola: organization of a SAIHC Conference in Angola to raise national authorities' awareness, reporting on progresses following the technical visit two years ago.
- Comoros: establishment of the service itself and outside assessment through technical visits.
- Madagascar: access to training and equipment.
- Malawi: assistance in training required (software update and equipment) and funds.
- Mauritius: training (especially for very shallow waters in lagoons) and equipment.
- Mozambique: outside assessment to evaluate which strategy to meet IHO standards (S44, S57).
- Namibia: organization of the visit of IHB in Namibia upon invitation (IHB to contact Namibian authorities and details to be provided by Namibia) and training (category A hydrographers).
- Seychelles: manpower allocated for hydrography and budget, continuous support for awareness at the government level.
- Tanzania: raising Tanzanian authorities and government awareness about the needs of hydrography, whereabouts of the head of the national hydrographic committee (Dr Dubi?).

It was noted that supporting nations in the region may not be able to sustain nine additional hydrographic offices. Only a regional approach in term of co-operation will help Coastal States in the SAIHC region to meet their maritime obligations. Mutualization of efforts and equipment will permit a gain of productivity for countries that have common interests.

In term of Capacity Building, the regional approach appeared necessary for all participants, nevertheless the training and the development of hydrographic infrastructures required to support particular needs and national specificities must be taken into account to bring a benefit to all. A better understanding of the local needs can be achieved through the IHO

technical visits and assessments. Co-operation must encourage the projects best suited to the situation of beneficiaries. For example, to allow hydrographers to follow course in their native language is a necessity. Moreover, States do not advance homogeneously in the establishment of a national hydrographic infrastructure. Countries that already perform a hydrographic activity need help; those that try to deliver services need continuous support effort and advice; those that do nothing need assistance to create a minimal capacity.

Representatives from supporting countries and industry acknowledged that training and assistance can be customized to each country.

One major concern is the sustainability of technology transfers. Training hydrographers and eventually giving them a survey boat is not sufficient. It is essential to make sure that Capacity Building will not cease at the end of co-operation programmes. On-site training, donation of the minimum equipment to enable specialists to perform their job, maintenance, faultless commitment of the beneficiaries themselves who bring the most precious contribution are the conditions of successful co-operation programmes. Moreover, supporting countries only accept to train those who will effectively work as hydrographers employed by their States in national offices.

Participants were invited to express their requirements yearly through the SAIHC point of contact of Capacity Building matters in accordance with the CBSC procedures related to request of Capacity Building Funds.

Developing Coastal States in the SAIHC region have to decide the level of national commitment to meet their international obligations. One of the roles of the International Hydrographic Organization is to help developing States to establish their own capability to provide at least updated hydrographic information to a charting authority in order to meet their SOLAS obligations and therefore fulfil their State responsibilities.

- Regional and bi-lateral co-operation is the key to acquire survey capabilities.
- The South Africa and Islands Hydrographic Commission is the regional hydrographic forum.
- The SAIHC is the access point for IHO Capacity Building and associated Funds even for non IHO Member States.

The recommendations from the seminar can be summarized as follows:

- To continue in raising the awareness of IMO members on their (rights and) SOLAS obligations and to adopt a coherent, sustainable and consistent approach in liaison with IMO.
- To obtain government commitment to push that message forward in order to get the visibility and the recognition needed to take on and exercise hydrographic responsibilities.
- To promote and assist in the development of national hydrographic committees (national commitment).
- To facilitate the development of bilateral agreements with supporting countries and transition mechanisms (one size does not fit all).
- To involve industry in capacity development programmes.
- To develop partnerships with regional maritime related fora and organizations.
- To develop replicable programmes of work to be used by donor agencies.
- To encourage associate members in joining the IHO.

ANNEX 1

Details of the seminar participants

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GEF-WIO/MHD /CMC	Neil Guy	+272 171 570 09	+278 257 804 78	IO Farmside 2S Homestead Aur Berguliat - 7945 Capetown - South Africa	nguy@zsd.corza
GEF-WIO/MHD /CMC & IOC	Raj Hemansing Prayag	+230 292 9800 Mobile +230 422 4010	+230 427 7281	Q4, Sir Guy Forget Avenue - BP 7 - Quatre Bornes – Mauritius	raj.prayag@coi-ioc.org
UNESCO/IOC	Dimitri Travin	+33 1 45 68 40 44	+33 1 45 68 58 10	1 rue Miollis - 75015 Paris - France	d.travin@unesco.org
Representatives from La Réunion	Jean-Marie Coupu Eric Banel Jérôme Theillier	+33 2 62 901 960 +33 6 92 88 85 88 +33 6 92 60 04 54	- - -	DRAM - 11, rue de la compagnie - 97487 Saint-Denis cedex – France Commanding naval forces in La Réunion - State Action at Sea	dram-reunion@developpement-durable.gouv.fr eric.banel@developpement-durable.gouv.fr czm.aem@fazsoi.defense.go
	MANUFACTURERS				
CARIS	Maarten Peters	+314 132 960 10	+314 132 960 12	Mgr.van Oorschotstraat 13 – 5473AX Heeswijk – The Netherlands	mpeters@caris.nl
C&C Technologies	Art Kleiner Aubrey Price	+337 261 0660 +27 217 052 741	+337 261 0192 +27 217 052 741	730 E. Kaliste Saloom Road – Lafayette – Louisiana 70508 – USA 53 Peninsula Road – Zeekoevlei 7945 – P.O Box 30532 – Tokai 7966 – South Africa	aak@cctechnol.com aop@ccttechnol.com
Jeppesen	Michael.Bergmann John K. Klippen Justin Hornby	+49 610 250 7580 +47 514 064 700 +27 21 701 2930	+49 610 250 7581 +47 51 464 701 +27 824 110 465	Frankfurter Str 233 – 63263 Neuisenburg – Germany Houlandsvn 52 – N-4379 Egersund – Norway Grapevine House – Steenberg Office park – Tokay 9966 – South Africa	michael.bergman@jeppesen.com john.klippen@jeppesen.com Justin.Hornby@jeppesen.com
Underwater Surveys	Ephan Potgieter	+27 839 968 166	+27 217 015 720	Underwater Surveys – Silverwood A1 – Steenberg Office park – Constamia 7806 – South Africa	Ep@underwatersurveys.com

ANNEX 2
Seminar programme

Seminar for Chairmen of National Hydrographic Committees, National Maritime Safety Committees or equivalents

programme / timetable: 14 –15 September 2009

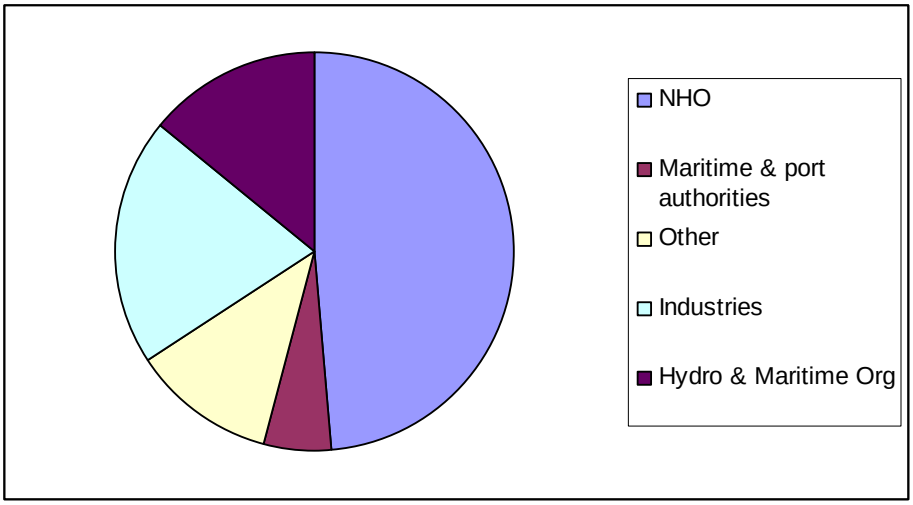
09:00	**Day 1**	
09:30	Welcome Address by Host Nation	
	IHB Opening Speech	
09:45	Objectives of the seminar	IHB
10:00	*Coffee Break*	
	Morning Session	
10:30	<u>Importance of nautical information</u>	
	Hydrography: International Obligations on States	IHB
	Role and Function of the IHO	IHB
	IHO Capacity Building and Developing Hydrographic Capabilities	IHB
	IMO Objectives and its role in the safety of navigation	IMO
12:30	*Lunch*	
	Afternoon Session I	
14:00	<u>The basic activities of hydrographic offices: the IHO M-2 publication related to National Maritime Policies and Hydrographic Services</u>	
	The importance of accurate nautical information (phase 1 – MSI)	UKHO (UK)
	Methods and instruments to optimize surveys (phase 2 – national hydrographic office development)	SHOM (France)
	Nautical chart production (phase 3 – charts production)	UKHO (UK)
15:30	*Coffee Break*	
	Afternoon Session II	
16:00	Data management – a separate activity?	NHS (Norway)
	Economic impact and benefits of hydrography	Navoceano (US)
	<u>The Organization of a National Hydrographic Office</u> USA – Navoceano Portugal - IHPT Mozambique - INAHINA	
17:00	Questions & Discussion	

09:00	**Day 2**	
	Morning Session I	
09:00	<u>Application of hydro-cartographic products and services</u>	
	Case Study 1: CRONO HIP joint project	Jeppesen
	Case Study 2: MINTEC	Jeppesen
	Case Study 3: INSPIRE – data interoperability	UKHO (UK)
	Case Study 4: SHOM Maritime Spatial Data Infrastructure - INFRAGEOS	SHOM (France) & Caris
10:30	*Coffee Break*	
	Morning Session II	
11:00	<u>Application of hydro-cartographic products and services (continued)</u>	
	Navigational and logistic solutions	Jeppesen
	Distribution of hydrographic data & products	UKHO (UK)
	<u>Regional initiatives, projects and opportunities</u>	
	Western Indian Ocean GEF - Marine Highways	GEF-WIO/ MHD /CMC
	Capacity Building for countries in transition	
12:30	*Lunch*	
	Afternoon Session I	
14:00	<u>Regional initiatives, projects and opportunities</u> (continued)	
	Western Indian Ocean GEF - Marine Highways: project presentation	GEF-WIO/ MHD /CMC & IOC UNESCO
	The Indian Ocean Commission today and tomorrow	
	Improving Emergency Response to Ocean-based Extreme Events through Coastal Mapping Capacity Building in the Indian Ocean	
	<u>Manufacturers presentations</u>	C&C Technologies
15:30	*Coffee Break*	
	Afternoon Session II	
16:00	Questions & Discussion	all
	Closure	

ANNEX 3

Questionnaire statistics

Your role in hydrographic activity and services in your State



What are you hoping to gain from this seminar?

Answers can be classified into four main categories.

- To improve my knowledge in hydrography and to prospect for solution to implement a hydrographic infrastructure in my country
- To better understand the needs in hydrography in the region
- To propose relationship and co-operation for the developing countries (Hydrographic offices and organizations)
- To make new contact and provide assistance in equipment or management to SAIHC Members (manufacturers)

PROJECT REPORT

IDENTIFICATION

Project Number : TBA

Project Name:	ENC Workshop
Submitting RHC/Country:	Brazil
Date:	26-30 OUT 2009
Institution executing the project:	Directorate of Hydrography and Navigation (DHN-BR)
Name of responsible:	Sebastião Simões de Oliveira. (Lt. Cmd.) Hydrographer (IHO CAT-A, DHN, Brazil, 1998) M.Sc.E. in Geomatics Eng. (UERJ, Brazil, 2007)
Address:	Av. Barão de Jaceguay, s/n Ponta da Armação, Niterói, RJ CEP 24048-900
Telephone:	55-21-21893248 (Office) 55-21-24846676 (Home) 55-21-96042034 (cel phone)
Fax:	55-21-2189-3237
e-mail:	sebastiao@chm.mar.mil.br sebsioli@yahoo.com.br

Results	
Date of start	26 OUT 2009
Date of finish	30 OUT 2009
Changes in scope or focus	There were no changes in scope of focus of the Workshop
Assessment and Comments	As the Workshop in its totality was conducted by CARIS instructors the Model of CARIS Courses evaluation was used as assessment. These assessments are appended to this report.
Results achieved (output, product, etc.)	There were 17 participants in the Workshop: - 10 members of Hydrografic Services that were supported by CBC (air ticket, hotel and meals) – 2 from Uruguai, 2 from Argentina, 2 from Peru, 2 from Equador, 1 from Chile and 1 from Cuba. - 2 Instructors from CARIS enterprise that gave presentations and classes about S-57 Composer software that were supported by CBC (air ticket, hotel and meal). - 5 Brazilian DHN's hydrography and cartography technical experts. The Workshop participation certification of each member is appended to this report. The Workshop was conducted in form of presentations and classes following the schedule. CARIS S-57 Composer was used for t ENC production, quality control and updated training and discussion. During the Workshop countries were allowed to talk

	and exchange information about their production structure and procedures. Therefore it was possible to achieve the aim of more qualified hydrographers to produce ENC within the Latin America region.
Comparison with the Achievements and benefits awaited	Most of the new S-58 4.0 version changes were presented and other relevant quality control subjects were discussed. Some other relevant subjects such as the use of SCAMIN, and Temporary and Preliminary Notice to Mariners Updates were discussed. Also most of the countries had the chance to learn about S-57 Composer software and how to use it to produce and update. Therefore benefits awaited of enhance the ENC quality production should be achieved in a short term period.
Problems experienced	Some countries postponed their answer about their attendance to the Workshop and the use of CBC fund and therefore bringing some difficulties to plan the usage of the CBC fund money.
Suggestion for improvement for similar projects	There are no specific suggestions
Suggestion for follow-up projects	Some of the participants suggested that similar Workshops and Courses should be done in order to show how to deal with ENC and paper chart production based in a single database structure software.
Information on the long term effect for Hydrography and the sustainable use	The Workshop enhanced the communication channel between Latin America ENC production technical experts, allowing an exchange of experience and solutions for common problems. Therefore a general benefit should be observed in ENC quality in a long term period.

Valuation

	Performance indicator	***Mark***	***Comments***
-	Arrangements	5	
	Organisation of the project	5	
	Involvement(contribution) of		
	National partners	4	Some countries postponed their answer about their attendance to the Workshop and the use of CBC fund and therefore bringing some difficulties to plan the usage of the CBC fund money.
	Regional partners	-	
	RHC	-	
	IHB	5	
-	Efficiency of the project		
	Goals achieved	5	
	Planned timing	5	
-	Future perspectives		
	Need of similar project (locally, regionally)	3	Some of the participants suggested that similar Workshops and Courses should be done in order to show how to deal with ENC and paper chart production based in a single database structure software.
	Impact on future development	5	
-	Procedure of CBC		

	Application form	5	
	Support received	5	
	Follow up and reporting	5	

FINANCIAL REPORT

	Resources			Comments
	requested	allocated	spent	
Contribution by countries involved	€ 7,013.50	€ 7,013.50	€ 7,013.50	Brazil DHN have provided the infrastructure (room, computers, transportation, etc) for the Workshop
Contribution by other parties	none	none	none	CARIS sent material and software that was used during the Workshop with no cost.
Contribution expected from CBC Fund	€20,000	€20,000	€12,566.79	
Total Cost (Euros)	€20,000	€20,000	€12,566.79	
Breakdown of costs				
From CBC Fund (item and amount)				**Se annex (a)**
From other parties (item and amount)				**Se annex (a)**

ANNEX A

BREAKDOWN OF COSTS FROM CBC FUND

REQUESTED and ALLOCATED

From CBCFund (item and amount)	Item	Per person	Number of persons	Total
	Hotel for participants	€ 388.50	12	€4,662.04
	Flights for participants	-	12	€ 7.055,81
	Food	€ 121.47	12	€ 936,15
	Final amount			€ **12.653,99**

BREAKDOWN OF COSTS FROM DHN - BR

REQUESTED and ALLOCATED

From CBCFund (item and amount)	Item	Per person	Number of persons	Total
	Food	€ 9.46	12	€ 113.50
	Material for classes	€ 90.00	10	€ 900.00
	Transportation hotel-DHN	€ 100.00	10	€ 1,000.00
	Costs Involving the contract of ENC production external expert company to give the classes and provide the software licenses during the course	€ 5,000.00	-	€ 5,000.00
	Final amount			€ 7,013.50

ANNEX A (Cont.)

BREAKDOWN OF COSTS FROM CBC FUND

SPENT

Exchange conversion	R$ => US$	1,73
	US$ => €	1,48

				Hotel			Air Ticket
Name:	**E-mail:**	**CBC Fund**	**Passport**	**R$**	Tx	**US$**	**US$**
Alina Hebe Yamamoto	ahyamamoto@hidro.gov.ar	Yes	21.831.344 N	996,00	1,73	575,72	472,00
Mario Lucas Caballero	Lucascaballero326@hotmail.com	Yes	DNI 27.329.628	996,00	1,73	575,72	472,00
Juan René Cárdenas Campusa	hidrografia@shoa.cl	Yes	12.845.481-0	996,00	1,73	575,72	510,00
Angel Acanda Reyes	onhg@enet.cu	Yes	O 818809	996,00	1,73	575,72	1.006,00
Angel Riccio	ariccio@inocar.mil.ec	Yes	913371043	996,00	1,73	575,72	623,00
Edison Guaman	edisonenriqueguaman@hotmail.c	Yes	918671165	996,00	1,73	575,72	623,00
Eduardo A. Machuca Gallo	emachuca@dhn.mil.pe	Yes	2787738	996,00	1,73	575,72	800,00
Fidel E. Ochoa Palomino	fochoa@dhn.mil.pe	Yes	2582306	996,00	1,73	575,72	800,00
Shirley Martínez	sohma_enc@armada.mil.uy	Yes	1.888.371-1	996,00	1,73	575,72	450,00
Fabiana Palleiro	sohma_enc@armada.mil.uy	Yes	2.522.257-6	996,00	1,73	575,72	450,00
Graciela Inés Lado	graciela.lado@caris.com	Yes	22173856N	996,00	1,73	575,72	2.125,00
Alejandro Gerones	alejandro.gerones@caris.com	Yes	B430156	996,00	1,73	575,72	2.125,00
				11.952,00		**6.908,67**	**10.456,00**

Budget	US$	€
Hotel	6.908,67	4.662,04
Meals (dinner)	1.387,28	936,15
Air Ticket	10.456,00	7.055,81

IHO World-Wide Navigational Warnings Service – Sub Committee (WWNWS-SC)

MARITIME SAFETY INFORMATION TRAINING COURSE
SUMMARY REPORT

Course: MARITIME SAFETY INFORNMATION TRAINING

Date: 26-28 October, 2009

Venue: Hotel Intercontinental, Muscat, Oman.

Instructors: Mr. Guy Beale (United Kingdom Hydrographic Office, UK), Mr Roger Ford (National Geospatial Intelligence Agency, USA), Cdr Hassan Faisal (Pakistan Hydrographic Department, NAVAREA IX Coordinator).

Hosts: Mr Rashid Mohamed Al Kiyumi, Dir. Gen. Maritime Affairs, Ministry of Transport & Communications and Cdr D J Wyatt, Hydrographer, Royal Navy of Oman and National Hydrographer, Oman.

Representatives: Representatives from Bangladesh, Iran (2), Pakistan, Seychelles, Sri Lanka and Thailand attended. Oman was well represented with nine (9) participants in attendance. **(Annex A)**

Introduction

On 26-28 October, 2009 a Maritime Safety Information (MSI) Training Course to benefit countries in the area of influence of both the North Indian Ocean Hydrographic Commission (NIOHC) and the ROPME Sea Area Hydrographic Commission (RSAHC) was held on behalf of the International Hydrographic Organizations (IHO) Capacity Building Committee (CBC) and the IHO's World-Wide Navigational Warning Service – Sub Committee (WWNWS-SC). This learning opportunity was facilitated by the WWNWS-SC as a capacity building first phase initiative.

The WWNWS is a coordinated global service for the promulgation of warnings regarding hazards to navigation, which might endanger international shipping. The syllabus included guidance on all the subject areas considered suitable for transmission as NAVAREA warnings as described in IMO Res. A.706(17).

India and Pakistan, as NAVAREA VIII and NAVAREA IX Co-ordinators respectively, are responsible for the sea areas covered by the North Indian Ocean and the ROPME Sea Area Hydrographic Commissions. They direct and control the broadcast of NAVAREA messages within these areas and make full and efficient use of national broadcast facilities, in keeping with the provision of the International Convention for the Safety of Life at Sea (SOLAS). These two NAVAREA Co-ordinators have the responsibility to be informed of all events that could significantly affect the safety of navigation within their areas.

Objective

The objective was to guarantee an initial increased flow of MSI to NAVAREA VIII and NAVAREA IX Co-ordinators for promulgation, and ultimately, to establish an expertise in the countries within the respective NAVAREAs, to fulfil the role of National Co-ordinators. To achieve this, the course was intended to provide practical instruction and guidance to participants who are involved with MSI and the drafting of Navigational Warnings, or with the issuance of MSI for the high seas. The aim of the course was to ensure that all attendees would:

- Endeavour to be informed of all events that could significantly affect the safety of navigation within their coastal region.
- Assess all information in the light of knowledge for relevance to navigation in the coastal region.
- Draft navigational warnings in accordance with the Joint IMO/IHO/WMO Manual on MSI.
- Pass NAVAREA warnings for further promulgation to the NAVAREA Co-ordinator, using the quickest means possible.

Content

The Course content **(Annex B)** included all aspects of the WWNWS. The participants where presented with overviews, course documents, and digital media covering; the Global Maritime Distress and Safety System; Maritime Safety Information; and the World-Wide Navigational Warning Service. They were also familiarized with the major guidance documents; IMO Res A.705(17), IMO Res A.706(17), the Joint IMO/IHO/WMO Manual on Maritime Safety Information, the IHO/IMO WWNWS SP-53 and the IMO SafetyNET and NAVTEX manuals. Extended time was spent explaining the National Co-ordinators roles, responsibilities and requirements, including the need to be informed on all events that could significantly affect the safety of navigation within their region. Particular attention was placed on the importance to immediately assess all information upon receipt and decide whether to inform the NAVAREA Co-ordinator of this information as appropriate.

The course was presented over a period of 3 days which included 2 days of practical exercises. Admiralty charts and publications relative to Port Sultan Qaboos harbour were made available for the practical exercises to evaluate source data for validity and applicability as NAVAREA or Coastal warnings. The participants worked in conjunction with the instructors on the second day and reviewed messages in a controlled and structured environment. On the third day, the participants were put into teams and assigned the task of an independent Watchkeeper and worked in a rehearsed real-time watch room scenario, with multiple categories of messages being assigned. This allowed the instructors to see the progress each student had made during this training effort and validated the course content and instruction as being appropriate and effective.

The course also included a very useful and informative visit by the group to Muscat Coast Radio Station and the Office of Port State control for Port Sultan Qaboos harbour.

Instruction

Mr Beale, acted as course leader, supported my Mr Ford and Cdr Faisal, with all three equally sharing the presentation duties. Each instructor had varied degrees of experience, skill and knowledge with managing and staffing a NAVAREA operations room. The intention had been for both the NAVAREA VIII and IX Co-ordinators to assist, but with the absence of a representative from NAVAREA VIII, it fell upon the NAVAREA IX Co-ordinator to ensure that the important messages regarding co-operation and exchange of information within the region were put across. The unique individual skills of the instructors provided participants with actual perspectives on the roles and responsibilities for all aspects of the promulgation of MSI. A high level of interaction between the instructors and the participants was encouraged and achieved, which added to a relaxed classroom atmosphere. Individual participation allowed for active engagement which proved to be the key to the success of the course.

All the participants were actively encouraged to discuss their national MSI concerns and relay their own stories of note from within their regions for all to learn by.

Participants / Language

Specific requests were made by the IHO CBC to the member states in the NIOHC and the RSAHC Regions, in their solicitation of participants to attend the course. The aim was to ensure that only those personnel charged with MSI responsibilities would attend the course and that it was not intended for policy or administrative personnel. The lack of participation by the majority of IHO member states affiliated to the RSAHC was disappointing; however, the calibre of the participants who did attend was very high, with all of their academic backgrounds and current positions being relevant.

It was further stressed that in conjunction with the specific IMO requirements that NAVAREA and Coastal Warning must be provided in English, the training would be in English and that attendees should have basic written and oral understanding of the English language. Out of the five MSI Training courses held to date, this was the first one at which ALL the participants had a sufficient competency level in the English language to ensure that all the teaching goals were achieved and this was clearly evident by the results of the final exercises.

The recommendations arising from previous courses in relation to CVs of the participants requested in the solicitations to attend this course had been clearly adhered to on this occasion.

Facilities / Support

The course was held in an excellently equipped small conference room at the Hotel Intercontinental, where all the participants were staying. Photo Copy facilities and a computer with a printer were provided in the conference room. The location of the class room at the same venue as the accommodation proved to be very effective and enhanced the smooth running of the course.

The last minute news of the absence of the NAVAREA VIII Co-ordinator, due to visa problems, was regrettable as this added extra tasks and pressures onto the team of instructors, who were indebted to Mr Mansoor AL Wahaibi of the Omani Ministry of Transport and Communications for his administrative support.

Conclusion

Once again it is very pleasing to report that this MSI training course maintained the high standards set by the previous models and that all the objectives were fully met. In fact the calibre of the participants resulted in the analysis of the final practical exercises recording the highest score yet of 95% of answers rated at Good or Very Good. It now becomes the responsibility of the participants to go back to their organizations and use their increased awareness and knowledge of the WWNWS in the NIOHC and RSAHC Regions, in order to increase the flow of MSI to the NAVAREA VIII and NAVAREA IX Co-ordinators and ultimately fulfil the role of National Co-ordinators within their countries in the future.

The course feedback **(Annex C)**, on all aspects relating to this training course, confirms the overall success of this mission. In closing, the WWNWS is extremely pleased with the results of this training effort and looks forward to continuing its support as the course is rotated to other Regional Hydrographic Commissions within the IHO.

Note: This course was financially supported by the CBC of the IHO, and was the fifth to be held in regional areas where there is a distinct lack of MSI support. The next Course will be in April 2010 in Namibia, for member states of the Southern Africa and Islands Hydrographic Commission.

ANNEX A

LIST OF PARTICIPANTS
MARITIME SAFETY INFORMATION (MSI) TRAINING COURSE
MUSCAT, OMAN

Name	Country	Organization	Contact Information
Guy Beale - Instructor	UK	UKHO	guy.beale@ukho.gov.uk
Roger Ford - Instructor	USA	NGA	Roger.P.Ford@nga.mil
Cdr Hassan Faisal - Instructor	Pakistan	Pakistan Hydrographic Department	hydropk@paknavy.gov.pk
Mr A T M Shahin Pervez	Bangladesh	Bangladesh Navy	dhydro@bangladeshnavy.org
Mr. Saeed Pasideh	IR of Iran	Ports & Maritime Organization	saeed_pasideh@yahoo.com
Mr Farhad Arezoumandi	IR of Iran	Ports & Maritime Organization	farezoomandi@yahoo.com
Mr Syed Noman Arshad	Pakistan	Hydrographic Department	hydropk@paknavy.gov.pk
Mr Tom Jacques ESTICO	Seychelles	Coast Guard	tom712718@yahoo.com testico9@gmail.com seycoast@seychelles.net
Mr Priyan Jayasooriya	Sri Lanka	Hydrographic Office	pjaya609@yahoo.com
Mr. Anurak Srirangrat	Thailand	Hydrographic Department	hydrotech@navey.mi.th godfree4299@hotmail.com
Mansoor Khalfan AL Wahaibi	Oman	Ministry of Transport and Communications	mansoorw@motc.gov.om
Esam Ahmed AL Zadjali	Oman	ONHO	
Abdul Hakim Ahmed AL harthy	Oman	MOECA	
Abdul Aziz Yousuf AL Baloush	Oman	Muscat Radio	
Murshid Khamis AL Kahali	Oman	Coast guard	
Muatasim Mohd AL harthy	Oman	Coast Guard	
Nasser Salem AL Habsi	Oman	Ministry Of Fisheries	
Ali Rashid AL Kalbani	Oman	AMNAS	tech1@amnas-oman.com
Ali kalhaf AL Yaraby	Oman	Ministry of Transport and Communications	

ANNEX B
"SYLLABUS AND TIMETABLE"

<table>
<tr><th colspan="5">IHO Capacity Building MSI Workshop for the RSAHC and NIOHC, Muscat, Oman
26th to 28th October 2009 Time Table</th></tr>
<tr><th>Time</th><th>Session</th><th>Day 1</th><th>Day 2</th><th>Day 3</th></tr>
<tr><td rowspan="3">0900-1000</td><td rowspan="3">First session</td><td>Welcome</td><td rowspan="3">08:00 to 11:00

Visit to Muscat Radio</td><td>Practical Exercise Day 2 Review

Message formatting</td></tr>
<tr><td>Administration</td><td rowspan="2">Chart updating & liaison with charting HO</td></tr>
<tr><td>Introductions of participants</td></tr>
<tr><td>1000-1015</td><td colspan="2">Coffee</td><td>Coffee</td></tr>
<tr><td rowspan="3">1015-1230</td><td rowspan="3">Second session</td><td>Introduction to GMDSS</td><td>Coffee</td><td rowspan="3">Practical Exercise
"A day in the life of a National Co-ordinator"</td></tr>
<tr><td>Equipment – SafetyNET</td><td>National Co-ordinator Requirements: knowledge, equipment, contacts, statutory authority to issue warnings.

SafetyNET and NAVTEX contact details</td></tr>
<tr><td>Equipment – NAVTEX</td><td>Joint MSI Manual sections 6 and 7</td></tr>
<tr><td>1230-1400</td><td colspan="4">Lunch</td></tr>
<tr><td rowspan="2">1400-1530</td><td rowspan="2">Third session</td><td>Introduction to WWNWS</td><td rowspan="2">Practical Exercise Information assessment for RNW</td><td rowspan="2">Practical Exercise Review</td></tr>
<tr><td>Introduction to MSI</td></tr>
<tr><td>1530-1545</td><td colspan="4">Coffee</td></tr>
<tr><td>1545 - 1700</td><td>Fourth session</td><td>WWNWS Guidance Documents</td><td>Practical Exercise (cont)
Information assessment for RNW</td><td>Lessons Learned & Closing Remarks session</td></tr>
</table>

ANNEX C

MARITIME SAFETY INFORMATION (MSI) TRAINING COURSE – OMAN - STUDENT SURVEY RESULTS

Question	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Organized	7	5	0	0	12
Right length	1	9	2	0	12
Too elementary	0	0	9	3	12
Presenters understandable	9	3	0	0	12
Instructors were prepared	9	3	0	0	12
Practical exercises were helpful	11	1	0	0	12
Breaks were the right length	7	5	0	0	12
I understand what WWNWS is	5	7	0	0	12
I understand my role & responsibility	3	9	0	0	12
I fell comfortable sending MSI	4	8	0	0	12
I feel this class was well worth my time	9	3	0	0	12
Visit to Muscat Radio was useful	2	9	1	0	12

Comments

1. Keep doing this course, it is a very good idea
2. Thank you very much
3. More training needed in each country for relevant people in other fields like Hydrography, Oceanography, Communication, Meteorology etc.
4. Need to do this training in my country
5. Well organised course. Given ample information on MSI. Instructors were fully prepared and were conversant with all the issues concerning MSI. Such courses provide useful opportunities for regional countries to get personnel trained in the aspects of MSI
6. The course has been fruitful to me and I will provide this training to my colleagues in my field of work. One small issue is that all participants must be made well aware of the administrative conditions regarding payment of air tickets before coming on such a course to avoid disappointment
7. The participants should be provided with the air ticket fare at the course. It created problems as I did my ticket from my own pocket. Based on the initial e-mail we prepared the formalities to when there was a change each individual was affected. I am sure the IHB will be more careful about this next time
8. I appreciate Mr Beale and Mr Ford for their splendid training

IHO Wide-World Navigational Warning Service Sub-Committee
MARITIME SAFETY INFORMATION TRAINING COURSE

SUMMARY REPORT

Course: MARITIME SAFETY INFORMATION TRAINING

Date: 15-17 Sep, 2009

Venue: Regional Maritime University of Accra (Ghana).

Instructors: Captain (rtd) François Lacroze (Vice-Chairman of WWNWS SC, SHOM, France)**,** Mr. Guy Beale (UKHO, UK) , Mr. Dan Boileau (NGA, USA), Captain (rtd) Alain Paire (SHOM, France).

Host: Captain A. O. Turkson, Rector of the Regional Maritime University (RMU) of Accra.

Representatives:
Participants attended from, Bénin, Gambia, Ghana, Guinea Bissau, Guinée, Côte d'Ivoire, Mauritanie, Nigeria, Sénégal and Togo (Annex A).

Introduction:
Between 15-17 September 2009, at the Regional Maritime University (RMU) of Accra (Ghana), the fourth Maritime Safety Information (MSI) Training Course was conducted on behalf of the International Hydrographic Organization's (IHO) Capacity Building Committee (CBC) and the IHO World-Wide Navigational Warning Service (WWNWS) Sub-Committee. This course was following an especial request made by the Eastern Atlantic Hydrographic Commission (EatHC) in order to benefit countries in its area of influence.
The Welcome and the Opening of the course were an official and very formal ceremony : Welcome by the Rector of the RMU, Opening by Captain (rtd) François Lacroze, as representant of the EAtHC coordinator for the Capacity building efforts in the Eastern Atlantic region.

The WWNWS is a coordinated global service for the promulgation of hazards to navigation, which might endanger international shipping. Such information includes the following: failure and/or changes to major navigational aids, newly discovered wrecks in or near main shipping lanes, drifting hazards such as containers or other large items, hazardous military operations and areas where search and rescue, anti-pollution operations and cable-laying or other underwater activities are taking place.

As NAVAREA II Coordinator within the WWNWS for the Eastern Atlantic Region, the French Hydrographic Office (SHOM) directs and controls the broadcast of NAVAREA messages within this area, making full and efficient use of national broadcast facilities in keeping with the provision of the International Convention for the Safety of Life at Sea (SOLAS). As NAVAREA Coordinator, SHOM has to be informed of all events that could significantly affect the safety of navigation within this area.

Objective:
This MSI training course was intended to provide practical guidance for those who are concerned with drafting radio navigational warnings or with the issuance of MSI for the high seas. The intention of this training effort was to translate into safer navigation for the region and establish an active regional coordination team of experts who will continue to collaborate with the NAVAREA Coordinator after the end of the session. At the conclusion of the course all attendees will:

1. Endeavor to be informed of all events that could significantly affect the safety of navigation within their coastal region.
2. Assess all information in the light of expert knowledge for relevance to navigation in the coastal region.
3. Draft navigational warnings in accordance with the Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI).
4. Pass NAVAREA warnings for further promulgation to the NAVAREA Co-ordinator, using the quickest means possible.

The participants of this course were constantly reminded of their responsibility to either actively use the knowledge gained from the course or to pass it on and share it with those personnel in their respective organisations and administrations charged with the gathering, analysing, drafting and promulgating urgent navigational warnings for the coastal area of their country.

Content:
The Course content (Annex B) included all aspects of the World-Wide Navigational Warning Service. Participants where provided background and introduction to the Global Maritime Distress and Safety System, Maritime Safety Information (MSI), and the World-Wide Navigational Warning Service including the recently up-dated versions of it's major guidance documents which enter into force in the near future – IMO Res A.705(17), IMO Res A.706(17), the new Joint IMO/IHO/WMO Manual on Maritime Safety Information, the IHO/IMO WWNWS SP-53 and SP-53 App 1, the International SafetyNET manual and the IMO NAVTEX manual. A presentation of SafetyNET and NAVTEX services was also provided. Extended time was spent explaining the National Coordinators roles, responsibilities and requirements, including the need to be informed on all events that could significantly affect the safety of navigation within their region, to immediately upon receipt assess all information in light of expert knowledge and to inform the NAVAREA coordinator on this information as appropriate.

The course included 1.5 full days of practical exercises using varied communication and charting tools. Participants used three nautical charts portraying the Ghanaian coast between Cape Three Points and Tema Harbour, as well as Tema Harbour area, and were asked to assess source messages for validity and effectiveness as coastal warnings (also for NAVAREA warnings) for these areas.

The participants worked in conjunction with the instructors in the first instance and reviewed messages in a controlled and structured environment. On the final day, participants were put in teams and assigned the task of independent watchkeeper and worked in a more up tempo and realistic watch room scenario.

Tema harbour and the GMDSS Tema radio station were visited on Wednesday morning. Including presentations, explanations and a rapid harbour tour by bus, with comments, this visit was very interesting, in particular with regards to the GMDSS Tema radio station for their role in the dissemination of nautical information, navigational warnings and other MSI. Mrs. Juliana Andoh, one of the Ghanaian participants, presented the station and so provided the students an outstanding learning opportunity.

Instruction:
Mr Guy Beale, UK Staff Officer for the Radio Navigation Warning section of Navarea I and secretary of the IMO NAVTEX coordinating panel, acted as lead instructor for the course with the other three supporting him equally sharing the presentation duties. Each instructor had varied degrees of experience, skill and knowledge with managing and staffing a National/NAVAREA watch operation. The unique skill mix of the instructors added to the classroom atmosphere, as they

individually provided participants with real life perspectives on the roles and responsibilities for all aspects of a National Coordinator/NAVAREA Coordinator operations and duties. The instructors worked cooperatively to ensure all participants were actively engaged by allowing them to explain their national MSI concerns and relay stories of note for all to learn by. This interactive approach was a key to the courses success, as the objective of learning was not compromised, due to this class being a shared and interesting training environment.

The PowerPoint slides shown during the course were an updated version of the files shown during Cadiz course (updated from lessons from Cadiz and with the new guidance documents, and put in conformity with the NAVAREA II area). For practical reasons, it was not possible to directly include a French translation inside the onscreen presentations. Francois Lacroze prepared a French version of the presentations which were handed out to all the French speaking participants. These handouts consisted of two booklets containing all material from the English presentations, except for the practical exercises. The French speaking participants strongly appreciated these handouts and found them very useful.

A pre-release version of a CDROM was provided to the all the students at the end of the course which contained : Guidance documents (English and French); PowerPoint files of the presentations (English); electronic versions of the booklets (French version of these English presentations); and Practical Exercises (English).

A final version of the CDROM with the actual presentations used in Accra will be released by the SHOM within a few weeks. Each of the students will receive a copy. It will also be sent to the countries in NAVAREA II area that did not attend the course, to IHO, to the instructors, etc.

Finally, at the end of the course, Mr. Guy Beale issued each participant a USB key containing all the course material, in English, used in Accra.

The CDROM and the USB key were provided with the intention they will be used for teaching by the participants when they returned home.

Students/language:
In the SHOM invitation letter (49 SHOM/DO/NAU/NA/NP – 2 April 2009), two explicit requests were made to the member’s states in the EAtHC, in their solicitation of participants to attend the course :

a) “Please note that the course will be conducted primarily in English. However, French instructors will be in attendance to help the "French speaking candidates". The course presentations will also be available in the French language on paper and electronic formats; however, it is important that all attendees have basic written and oral understanding of the English language.”
b) “This course is intended for the personnel charged with collecting and issuing coastal navigational warnings within a coastal region. This course is not for policy or administrative personnel.”

This was to ensure that the right people would attend this course. Experience gained from previous courses has proved that meeting these two specific goals is paramount to ensure success.

During this course, in regards with the first request:i) of the 17 participants, 12 (including Guinea Bissau) were French speakers
- 2 of the 12 French speakers, 6 were fully conversant in English (speaking, listening, reading and writing), and 6 had not got the sufficient level for following the course conducted in English

- 4 of these 6 were able to follow the course with the aid of the French booklets*
- 2 of these 6 did not meet the criteria for English at all and should not have attended for this reason.

*The French handouts have been also often used by the 6 fully conversant in English.

In regards with the second request, despite it should be clear that the course has a strong technical background, it appeared that at least 2 of the participants should have not attended the course.

However, the instructors were generally pleased with the body of participants, as there was an appropriate mix of national and local port and harbour authorities. Their industry related backgrounds, eagerness to learn and keen interest towards improving the means of navigation within their specific region was evident and noteworthy. This set the framework for a successful time of learning and knowledge sharing.

An analyse of the results achieved in the final practical exercises recorded that approximately **72%** of the answers could be described as GOOD. This percentage is considered to be a very satisfactory conclusion and testament to the content of the current course syllabus.

Facilities/Support:

The course took place at the Regional Maritime University of Accra (RMU), with all the administrative support supplied by RMU. The RMU provided a large, air-conditioned classroom which was adequately equipped for the necessary training and chart work. The instructors were duly impressed and grateful for the support provided by the staff from the RMU.

In particular, Captain Edwin Botchway from RMU paid close attention to all the details and all requests from travel support (from/to airport/hotel, hotel/RMU, visit of Tema harbour), office supplies, copy support, lunch, coffee breaks, etc. This allowed both the instructors and participants to focus and concentrate on the training and learning at hand, and thus made for a fruitful week.

Concerning the organization of the course, Captain Edwin Botchway and Mr. Alain Paire, who was in charge of all the logistical aspects, did an outstanding job and both the participants and instructors were very thankful for their accommodating support which should be highlighted. A special thanks also goes to Captain Catherine Haizel, Head of Nautical Studies Department, of RMU.

IHO financial support:

a) Booking for the accommodation:

Unfortunately, there were a number of participates from different nations who failed to fulfil their commitment to attend the course. Furthermore, no advance warning of their intentions to cancel their participation was received, which in turn resulted in the IHB Capacity Building fund being liable for some pre-paid accommodation costs with the hotel. For future courses, it is proposed that each candidate should be advised to confirm their own booking directly to the hotel, so that any late cancellations are not subsidised by the IHB.

b) Flight / one person / nation:

Two nations had asked for financial help for the flights of one of their participants prior to their arrival in Ghana.

In the invitation letter, the sentence upon the IHO support for flights was not clearly understood by some nations or participants: “The IHO capacity building fund will provide the financial support for the accommodation (hotel, meals) and also, depending of the attendees number, some financial support might be available for the travels of only one participant of the following countries: ….”. It is recommended that this section of the invitation letter be reviewed for future courses to specify

effective support for one candidate per nation, whilst at the same time, limiting this help to the countries with expensive flights. So, the budget could be defined easily.

Conclusion:
The MSI training course in Accra, Ghana, by all accounts was a success. Recommendations by the instructors for future training sessions to expand the participant body through aggressive national solicitation should be noted. Almost all of the participants on this occasion were knowledgeable, engaging and genuinely interested in the subject matter. Their feedback (Annex C) should confirm this finding and validate this training session as successful.

The RMU's facilities, as stated, provided all a very fruitful learning environment. The support provided by Captain Edwin Botchway and the staff at the RMU was outstanding. Their efforts laid the framework for a very enjoyable and fruitful time as it was a key enabler towards the positive outcome of this course.

The problem of language for the MSI course in Accra was crucial and it could be such for another courses. The students have to understand clearly the stakes, the context, what is expected from them, and the use of their usual language should clearly the best way to hit the target. So, for instance in Accra, in addition to the French handouts and to the explanations in French by French instructors, the PowerPoint slides should have been bilingual (and therefore not to dense) ; it may happen that the Powerpooint files have to be bilingual for courses in another hydrographic commission region.

Note: This course was financially supported by the CBC of the IHO. This was the 4th course held worldwide in regional areas where there is a distinct lack of MSI support. The next Course will be held in October 2009, in Oman, for two Hydrographic Commission regions, the ROPME Sea Area Hydrographic Commission (RSAHC) and the North Indian Ocean Hydrographic Commission (NIOHC).

ANNEXE A

LIST OF PARTICIPANTS
MARITIME SAFETY INFORMATION TRAINING COURSE
ACCRA (GHANA) (15 – 17 September 2009)

Name	Country	Organization	Contact information
Juliana S. Andoh	GHANA*	Ghana Ports and Harbours Authority (Tema)	jselinaandoh@ghanaports.net Tel : + 233 (0)249 745166
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Pathé Yéro Thioye	SÉNÉGAL	Port Autonome Dakar	pthioye2@yahoo.fr Tel : + 221 775555035/ + 221 338497957
Tenah Kokou	TOGO	Togo Navy	baguisoga@yahoo.fr Tel : + 228 9209205/ + 228 2270517
Djahlin Kote François		Togo Maritime Administration	kdjahlin5@yahoo.fr Tel : + 228 9043495

* 2 participants of RMU were expected for attending the course. They only attended the first morning.

ANNEX B

<table>
<tr><th colspan="5">IHO Capacity Building MSI Training Course for the EAtHC, Accra, Ghana 15th to 17th September 2009 Time Table</th></tr>
<tr><th>Time</th><th>Session</th><th>Day 1</th><th>Day 2</th><th>Day 3</th></tr>
<tr><td rowspan="3">0900-1000</td><td rowspan="3">1st session</td><td>Welcome - Opening</td><td rowspan="3">0800: Departure hotel to Tema Port Harbour
0845/0930: Port Harbour Office
0935/1000: Harbour visit by bus
1010/1100: Visit of Tema GMDSS Radio Station
1115/1130: Tema Harbour to RMU by bus
1135/1230: Joint MSI Manual sections 6 and 7</td><td rowspan="2">Practical Exercise Day 2 Review
Message formatting</td></tr>
<tr><td>Administration</td></tr>
<tr><td>Introductions of participants</td></tr>
<tr><td>1000-1015</td><td colspan="2">Coffee</td><td>Coffee</td></tr>
<tr><td rowspan="3">1015-1230</td><td rowspan="3">2nd session</td><td>Introduction to GMDSS</td><td rowspan="3">Practical Exercise
"A day in the life of a National Co-ordinator"</td></tr>
<tr><td>Introduction to MSI</td></tr>
<tr><td>Introduction to WWNWS</td></tr>
<tr><td>1230-1400</td><td colspan="4">Lunch</td></tr>
<tr><td rowspan="2">1400-1530</td><td rowspan="2">3rd session</td><td>WWNWS Guidance Documents</td><td rowspan="2">Practical Exercise
Information assessment for RNW</td><td rowspan="2">Practical Exercise
"A day in the life of a National Co-ordinator" (cont)
Practical Exercise Review</td></tr>
<tr><td>Equipment – NAVTEX
Equipment – SafetyNET</td></tr>
<tr><td>1530-1545</td><td colspan="4">Coffee</td></tr>
<tr><td rowspan="2">1545 - 1700</td><td rowspan="2">4th session</td><td rowspan="2">National Co-ordinator Requirements - knowledge, equipment, contacts, statutory authority to issue warnings
Interactive session incl SafetyNET and NAVTEX contact details in the Region</td><td rowspan="2">Practical Exercise (cont)
Information assessment for RNW</td><td>Chart updating & liaison with charting HO</td></tr>
<tr><td>Lesson Learned & Closing Remarks
Delevery of Certificates</td></tr>
</table>

ANNEX C

MARITIME SAFETY INFORMATION (MSI) TRAINING COURSE – GHANA
17 PARTICIPANTS SURVEY RESULTS

Questions	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Course was organized	11	6			17
Course was right the length	7	9	1		17
Too elementary*	3*	1*	11	2	17
Presenters understandable	9	7	1		17
Instructors were prepared	16	1			17
Live demo were helpful**					
Practical exercise were helpful	12	5			17
Breaks were the right length	6	11			17
I understand what WWNWS is	11	6			17
I understand my role & responsibility	13	4			17
I feel comfortable sending MSI	6	11			17
I feel this class was well worth my time	11	6			17
Were the French handouts useful	13	1			14

* It seems that this question has not been fully understood by 4 French speakers participants
** No live demos were used in Accra course
*** 13 participants received the French handouts (booklets). Comment n° 5 below is from an English speaker participant who had not got the booklets.

Comments : only 15 on 17 participants wrote some comments. The comments in French are followed by a tentative translation in English.

a) *English speakers participants*

1. Wish they will organize the trainings very often to enable us to get abreast with time on maritime world
2. Training course was very agreable. Experts were willing and able to transmit their knowledge in very understandable words/terms. Course was worth my time.
3. Knowledge is good and the course must be repeated every year.
4. The course has definitively enhanced my ability to oversee the operations of MSI information/infrastructure portal in my country. I hope that follow-ups would be to put in-place as may become necessary to ensure that knowledge gained is brought to bear with regards to dissemination of MSI in Navarea II area. Thank you.
5. Recommend next time handouts in English should be printed because it became necessary to learn after lectures/classes.

b) *French speakers participants*

6. Je suis satisfait de ce séminaire et je souhaite que l'effort soit multiplié pour aider les jeunes administrations de la zone NAVAREA II, à travers : assistance technique, appui.
   I am very satisfied with this course and I wish that efforts will be increased in order to help the recent maritime administrations by the means of technical assistance.
7. Le cours a été très important pour nous - This course has been very important for us.
8. Faire le nécessaire pour dispenser davantage ce cours qui est très important. Nos pays sauront à notre retour l'importance de ce cours. Nous vous remercions, cela n'a pas été une perte de temps.
   To act in order to have more IHO MSI courses. This cours is very important and when coming back

our countries, we we'll inform our administration how the course is important. We thank you, this course was not wasted time.

9. The French Hydrographic Office instructors explanation were very good because their English is clear to be understand.
10. Very good course. Today, we are able to deal with MSI subjects. Thanks OMI/OHI. But financial supports has to be review. Why doesn't OMI do its best to install NAVTEX transmitters along African's coasts or other coasts in the same situation ?
11. Trouver un correspondant pour son pays en dehors de l'Administration pour faciliter la circulation des infos RSM. Assurer la prise en charge intégrale des participants compte tenu des difficultés financières de certains pays.
    To find a link/correspondant for our country outside our national Administration in order to facilitate the circulation/collect/dissemination of MSI informations. To provide for an integral taking in charge of the participants due to the financial difficulties of some countries.
12. Très satisfait de ce stage. Il faut organiser d'autres stages de ce genre dans un autre pays, à l'Université maritime d'Abidjan par exemple, mais en français. Puisque vous avez nos contacts, merci de nous informer pour participer à d'autres stages sous-régionaux.
    I'm very satisfied with this course. Other similar courses must be held in another country, for instance in Ivory Coast, in the Maritime University of Abidjan, but only in French language and not in English. Since you have got our links/contacts, please inform us for a participation to another similar sub-regional courses.
13. Je souhaite que d'autres stages soient organisés sur les différentes parties qui composent le SMDSM. Merci pour les connaissances données.
    I wish that other courses to be organized upon the different parts of GMDSS. Thank you for the knowledge that has been given.
14. Ce cours a été très agréable, et je souhaite vivement l'approfondir en français.
    This course was very agreable and I strongly ask for deepening it in French.
15. Ce cours est très intéressant. Il est à reconduire car nécessaire.
    This course is/was very interesting. I hope that the IHO MSI course will be hold again because it is necessary.
16. No comment
17. No comment

The word of the participants' representative at the end of the course

I wish on behalf of all the participants of the MSI course to express our deepest appreciation and gratitude to all our course lecturers; and the R.M.U for hosting this very important programme.

Granted the limited time it took to conduct the course, we are proud to inform that whilst most of us came with little or absolutely no knowledge about MSI, all of us will leave here with a good idea of what is and what is not MSI.

In light of these facts, I would like to inform you that all the knowledge garnered in the duration of the course shall be duly transmitted to our respective countries accordingly.

Thank You.

IHO World-Wide Navigational Warnings Service – Sub Committee (WWNWS-SC)

MARITIME SAFETY INFORMATION TRAINING COURSE
SUMMARY REPORT

Course: MARITIME SAFETY INFORMATION TRAINING

Date: 13-15 April, 2010

Venue: Protea Hotel Pelican Bay, Walvis Bay, Namibia.

Instructors: Mr. Guy Beale (United Kingdom Hydrographic Office, UK), Miss Erin Conway (National Geospatial Intelligence Agency, USA).

Hosts: Mr Tony Raw, Port Engineer, Namibian Ports Authority, Captain Mussa M Mandia, Port Captain, Port of Walvis Bay, Namibian Ports Authority.

Representatives: Angola (3), Kenya, Malawi, Mozambique, Namibia (10), **(Annex A)**

Introduction

On 13-15 April 2010, a Maritime Safety Information (MSI) Training Course to benefit countries in the area of influence of the Southern Africa and Islands Hydrographic Commission (SAIHC) was held on behalf of the International Hydrographic Organizations (IHO) Capacity Building Committee (CBC) and the IHO's World-Wide Navigational Warning Service – Sub Committee (WWNWS-SC). This learning opportunity was facilitated by the WWNWS-SC as a capacity building first phase initiative.

This was the second course in the region covering this topic, following the first initiative held in Mozambique in 2007.

The WWNWS is a coordinated global service for the promulgation of warnings regarding hazards to navigation, which might endanger international shipping. The syllabus included guidance on all the subject areas considered suitable for transmission as NAVAREA warnings as described in IMO Res. A.706(17).

South Africa, as NAVAREA VII Co-ordinator, is responsible for the sea areas covered by the Southern Africa and Islands Hydrographic Commission and controls the broadcast of NAVAREA messages within the region, making full and effective use of national broadcast facilities, in keeping with the provisions of the International Convention for the Safety of Life at Sea (SOLAS). The NAVAREA Co-ordinator has the responsibility to be informed of all events that could significantly affect the safety of navigation within its area.

Objective

The objective was to build on the increased flow of MSI since 2007 to NAVAREA VII Co-ordinator for promulgation, and ultimately to re-emphasise the importance of establishing expertise in the countries within the NAVAREA, to fulfil the role of National Co-ordinators. To achieve this, the course was intended to provide practical instruction and guidance to participants who are involved with MSI and the drafting of Navigational Warnings, or with the issuance of MSI for the high seas. The aim of the course was to ensure that all attendees would:

- Endeavour to be informed of all events that could significantly affect the safety of navigation within their coastal region.
- Assess all information in the light of knowledge for relevance to navigation in the coastal region.
- Draft navigational warnings in accordance with the Joint IMO/IHO/WMO Manual on MSI.
- Pass NAVAREA warnings for further promulgation to the NAVAREA Co-ordinator, using the quickest means possible.

Content

The Course content **(Annex B)** included all aspects of the WWNWS. The participants where presented with overviews, course documents, and digital media covering; the Global Maritime Distress and Safety System; Maritime Safety Information; and the World-Wide Navigational Warning Service. They were also familiarized with the major guidance documents; IMO Res A.705(17), IMO Res A.706(17), the Joint IMO/IHO/WMO Manual on Maritime Safety Information, the IHO/IMO WWNWS S53 and the IMO SafetyNET and NAVTEX manuals. Extended time was spent explaining the National Co-ordinators roles, responsibilities and requirements, including the need to be informed on all events that could significantly affect the safety of navigation within the region. Particular attention was placed on the importance to immediately assess all information upon receipt and decide whether to inform the NAVAREA Co-ordinator of this information as appropriate.

The course was presented over a period of 3 days which included 2 days of practical exercises. Admiralty charts and publications of Cape Town were made available for the practical exercises to evaluate source data for validity and applicability as NAVAREA or Coastal warnings. The participants worked in conjunction with the instructors on the second day and reviewed messages in a controlled and structured environment. On the third day, the participants were split into teams and assigned the task of an independent Watchkeeper and worked in a rehearsed real-time operations room scenario, with multiple categories of messages being assigned. This allowed the instructors to see the progress each student had made during this training effort and validated the course content and instruction as being appropriate and effective.

The course also included a very useful and informative visit by the group to Walvis Bay Coast Radio Station.

Instruction

Mr Beale, acted as course leader, supported my Miss Erin Conway, who equally shared the presentation duties. Each instructor had varying degrees of experience, skill and knowledge with managing and staffing a NAVAREA operations room. The participation of the NAVAREA VII Co-ordinator was unfortunately not possible on this occasion. Both the instructors in attendance had, however, been present at the previous training course in the region with the NAVAREA VII Co-ordinator and were therefore able to consolidate the original important messages regarding co-operation and exchange of information within the region, which he conveyed on that occasion. Detailed planning and liaison had also taken place with the NAVAREA VII Co-ordinator in advance of this course as soon as his non-attendance had been communicated.

The unique and individual skills of the instructors provided participants with actual perspectives on the roles and responsibilities for all aspects of the promulgation of MSI. A high level of interaction between the instructors and the participants was encouraged and achieved, which added to a relaxed classroom atmosphere. Individual participation allowed for active engagement which proved to be the key to the success of the course. All the participants were actively encouraged to discuss their national MSI concerns and relay their own stories of note from within their regions for all to learn from.

Participants / Language

Specific requests were made by the IHO CBC to the member states in the SAIHC Region, in their solicitation of participants to attend the course. The aim was to ensure that only those personnel charged with MSI responsibilities would attend the course and that it was not intended for policy or administrative personnel. This was successfully achieved on this occasion.

Once again, the lack of participation by more IHO member states affiliated to the SAIHC was disappointing. Not for the first time, despite the considerable efforts of the South African Hydrographic Office, at least two of the prospective candidates were unable to attend at the last minute due to visa problems, which had an effect on the numbers of those in attendance. In fairness to the organisations charged with the forward planning and administration of these types of initiatives, lessons need to be learnt in relation to the commitment of Member States to arrange their own travel requirements much further in advance. Problems with last minute confirmations and travel arrangements also meant that the instruction did not start until after lunch of the first day, in order to accommodate representatives from two Member States and the full list of participants was not completed until the morning of the second day.

Once everyone had arrived, the calibre of the participants was very high, bolstered by a very large and enthusiastic contingent from various specialised and relevant sections and departments within the Namibian Ports Authority (NAMPORT).

In alignment with the specific IMO requirements that NAVAREA and Coastal Warning must be provided in English, it had been requested that attendees should have basic written and oral understanding of the English language. Following the success of getting this message across for the previous course in Oman, once again, *all* the participants had a sufficient competency level in the English language to ensure that all the teaching goals were achieved. This was clearly evident by the results of the final exercises.

Facilities / Support

The instruction took place in an extremely well equipped conference room at the Protea Hotel Pelican Bay, Walvis Bay, where all the participants who had travelled were staying. Printing, copying and presentation facilities were all provided by NAMPORT in conjunction with the management of the hotel. The location of the class room at the same venue as the accommodation once again proved to be very effective and enhanced the smooth running of the course.

The South African Hydrographic Office had overseen all the pre-course arrangement in close co-operation with NAMPORT, who also provided considerable tangible support and assistance towards the management of this course.

Acknowledgements

This course was financially supported by the CBC of the IHO and the Namibian Ports Authority.

The instructors were indebted to Ms Jo-Ann Stevens, Corporate Communications Officer, NAMPORT, for her assistance in coordinating the event with the hotel management and also for her liaison with the IHO and SAHO in conjunction with the traveling participant’s requirements.

Conclusion

Once again it is very pleasing to report that this MSI training course maintained the high standards set by the previous models and that all the objectives were all fully met. The analysis of the final practical exercises recorded the score of 90% of answers rated at Good or Very Good. It now becomes the responsibility of the participants to go back to their organizations and use their increased awareness and knowledge of the WWNWS, in order to increase the flow of MSI to the

NAVAREA VII Co-ordinator and ultimately fulfil the role of National Co-ordinators within their countries in the future.

The course feedback **(Annex C)**, on all aspects relating to this training course, confirms the overall success of this mission. In closing, the WWNWS is extremely pleased with the results of this training effort and looks forward to continuing its support as the course is rotated to other Regional Hydrographic Commissions within the IHO.

Next Planned Course

The next Course will be in held in August 2010 in Australia, for Member States of the South West Pacific Hydrographic Commission, which will be the 7th First Phase Capacity Building module for regional areas where there is a distinct lack of MSI support.

ANNEX A

LIST OF PARTICIPANTS, MARITIME SAFETY INFORMATION (MSI) TRAINING COURSE, WALVIS BAY, NAMIBIA

Name	Country	Organization	Contact Information
Guy Beale - Instructor	UK	UKHO	guy.beale@ukho.gov.uk
Erin Conway - Instructor	USA	NGA	erin.m.conway@nga.mil
Capt Mussa H Mandia	Namibia	NAMPORT (Port Captain, Port of Walvis Bay)	mussa@namport.com.na
Mrs Ndapewa Anna Johannes	Namibia	NAMPORT (Port Control Officer)	ndapewailonga@yahoo.com
Ms Clementine Kaurikomeho	Namibia	NAMPORT (Port Control Officer)	missclemy@hotmail.com
Francis N. Muhia	Namibia	NAMPORT	francis@namport.com.na
Evaldine Chimbuelengue	Namibia	NAMPORT	evaldine@namport.com.na
Mr Mark L Eiman	Namibia	NAMPORT	mark@namport.com.na
Shadrick Kamwi	Namibia	NAMPORT	shkamwi@webmail.co.za
Mr Trevor Heath	Namibia	TELECOM Namibia – Maritime Radio Operator	trev.heath@gmail.com heathtc@telecom.na
Mr Joseph Mandhla Luanda	Namibia	TELECOM Namibia – Maritime Radio Operator.	luanda@telecom.na
Mr Mateus Ndeshikeya	Namibia	TELECOM Namibia – Maritime Radio Operator.	ndeshikeyam@telecom.na
Mr Salustiano Francisco Ferreira	Angola	Instituto Hydrografico e de Sinalizacâo Maritima de Angola.	Orfeu_salu@yahoo.com.br
Mr Manuel Narciso	Angola	Instituto Hydrografico e de Sinalizacâo Maritima de Angola.	manuelnarciso2000@yahoo.com.br
Mr Helder Rufino Conceicao	Angola	Instituto Hydrografico e de Sinalizacâo Maritima de Angola.	helderufino@hotmail.com
Carlota Alfredo de Vasconcelos	Mozambique	INAHINA – Hydrographic Office.	guiongo_vasconcelos@yahoo.com.br
Mr Peter Moses Limau	Malawi	Dept of Surveys – Hydrographic Survey Unit.	peterlimau@yahoo.com
Ms Dorothy Mose	Kenya	Kenya Maritime Authority. GMDSS Operator.	dmose@maritimeauthority.co.ke

ANNEX B
"SYLLABUS AND TIMETABLE"

IHO Capacity Building MSI Training Course for the SAIHC, Walvis Bay, Namibia 13th to 15th April 2010 Time Table				
Time	**Session**	**Day 1**	**Day 2**	**Day 3**
0900-1000	**First session**	Welcome	09:00 to 11:00 Visit to Walvis Bay Radio	Practical Exercise Day 2 Review Message formatting
		Administration		Chart updating & liaison with charting HO
		Introductions of participants		
1000-1015	**Coffee**			**Coffee**
1015-1230	**Second session**	Introduction to GMDSS	**Coffee**	Practical Exercise "A day in the life of a National Co-ordinator"
		International SafetyNET system	National Co-ordinator Requirements: knowledge, equipment, contacts, statutory authority to issue warnings. Regional SafetyNET and NAVTEX contact details	
		International NAVTEX system	Joint IMO/IHO MSI Manual sections 6 and 7	
1230-1400	**Lunch**			
1400-1530	**Third session**	Introduction to WWNWS	Practical Exercise Information assessment for RNW	Practical Exercise Review
		Introduction to MSI		
1530-1545	**Coffee**			
1545 - 1700	**Fourth session**	WWNWS Guidance Documents	Practical Exercise (cont) Information assessment for RNW	Lessons Learned & Closing Remarks session

ANNEX C

MARITIME SAFETY INFORMATION (MSI) TRAINING COURSE – WALVIS BAY, NAMIBIA - STUDENT SURVEY RESULTS

Question	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
Organized	13	3	0	0	16
Right length	9	7	0	0	16
Too elementary	0	0	13	3	16
Presenters understandable	11	5	0	0	16
Instructors were prepared	12	4	0	0	16
Practical exercises were helpful	14	2	0	0	16
Breaks were the right length	10	6	0	0	16
I understand what WWNWS is	12	4	0	0	16
I understand my role & responsibility	12	4	0	0	16
I fell comfortable sending MSI	13	3	0	0	16
I feel this class was well worth my time	14	2	0	0	16
Visit to Muscat Radio was useful	14	2	0	0	16

Comments

1. I liked the course and I use the knowledge in my job
2. Everything was OK
3. I think courses like this should happen annually or bi-annually
4. I think that with time I could send MSI without a problem and I will implement this in my Country. The course was wonderful.
5. Well presented and very enjoyable and at times entertaining. Thanks.
6. I learnt how to differentiate between Notice to Mariners and Navigational Warnings. The course also outlined the important elements to be considered when composing a Navigational Warning Message
7. More courses on MSI are needed
8. More courses required to gain more knowledge
9. Keep it up
10. Instructors made the course exciting and interesting
11. The course was an eye opener in terms of RNWs. However the course needs to be longer to learn the topic in detail. Also a visit to a vessel to appreciate NAVTEX physically would be useful, just like we did to the Coast Radio Station.

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c/o Hydrographic Department
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EAHC Permanent Secretariat
Hydrographic and Oceanographic Department
JCG 3-1, Tsukiji 5-Chome, Chuo-Ku
Tokyo, 104-0045 Japan
Tel: +(81) 3 3541 3685
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HY 100.002

Tel: (65) 6375 1222
Fax: (65) 6278 7646

22 Jul 08

Capt Hugo Gorziglia
Chairman of IHO CBC
International Hydrographic Bureau
4 quai Antoine 1er
B.P. 445
MC 98011 MONACO CEDEX

Fax: +(377) 93 10 81 40

Dear Capt Gorziglia,

COMPLETION OF EAHC QUALITY ASSURANCE (QA) IN MULTIBEAM SURVEYING & POST PROCESSING COURSE

I am pleased to report that we have completed the QA in Multibeam Surveying & Post Processing Course, held from 16 – 19 Jun 08. The course was conducted by hydrographers from the Singapore Hydrographic office. All EAHC member states, except China and North Korea attended the course. China was unable to send their representatives due to emergency work. 4 self-sponsored observers from Vietnam, 2 each from Maritime Safety Company I and II also attended the course. (Refer Annex A for attendance list)

2. The feedback from the participants was that the course was well organized and relevant. Some commented that they would like more emphasis on field training and data processing. Others indicated that they would like talks from hydrographic equipment suppliers. We would consider their suggestions in future courses.

3. The total cost incurred for the course is S$23,699 (€11,020). Refer Annex B for course breakdown.

4. The bank administrative charge for DBS Bank Ltd is S$10; as such please remit the amount of S$ 23,709 (**€11,025**) including bank administrative charges to our bank by Telegraphic transfer. Please refer to Annex C for payment details.

5. The course was well received and the participants indicated that the course would be very useful for their colleagues to attend. We would like to take the opportunity to thank IHO for sponsoring the event.

Yours truly.

PARRY OEI
CHAIRMAN
EAST ASIA HYDROGRAPHIC COMMISSION

ANNEX A

EAHC Seminar on Quality Assurance of Multibeam Surveying and Data Processing

16 to 19 Jun 08

Attendance List

S/N	Name	Country	Department	Organisation	June 2008			
					Mon	Tue	Wed	Thu
					16	17	18	19
1	Lee Byung Seong	S Korea	National Oceanographic Research Institute	Ministry of Land Transport and Maritime Affairs	LBS	LBS	LBS	LBS
2	Chang Min Cheol	S Korea	National Oceanographic Research Institute	Ministry of Land Transport and Maritime Affairs	장	장	장	장
3	Antonio G. Valenzuela, Jr	Philippines	Coast and Geodetic Survey Department	National Mapping and Resource Information Authority				
4	Kittisak Nilrat	Thailand	Hydrographic Department	Royal Thai Navy	Kittisak	Kittisak	Kittisak	Kittisak
5	Mohd Syahir bin Eleas	Malaysia	Hydrographic Department	National Hydrographic Centre				
6	Kota Maehara	Japan	Hydrographic and Oceanographic Department	Japan Coast Guard	kota	kota	kota	kota
7	Ainun Pujo Wiryawan	Indonesia	Survey Deaprtment	Jawatan Hidro-Oseanografi (Janhidros)	Apw	Apw	Apw	Apw
8	Tran Ngoc Tu	Vietnam	A to N & Hydrographic Department	Maritime Safety Company No. 1				
9	Nguyen Phuc Chinh	Vietnam	Hydrographical Survey Enterprise	Maritime Safety Company No. 1				
10	Nguyen Hisu Huy	Vietnam	Hydrographical Survey Enterprise	Maritime Safety Company No. 2				
11	Pham Tuan Anh	Vietnam	Electro Mechanics Engineering Department	Maritime Safety Company No. 2				

ANNEX B

	Amount
Accommodation	
6 Participants	$4,685
Students' Fees	
Air Fares	$5,569
Survey Launches for field work (2 Launches)	$6,200
Training Facilities and Services	$4,083
Notebook Rental for processing	$800
Transport	$804
Miscellaneous	$7
Sub Total	$17,463
Total Cost (SGD) (Accommodation + Students Fees)	$22,148
GST (7%) *	$1,550
Total Amount, with GST	$23,699
Total Cost (Euro)	**€11,020**
(1 SGD = € 0.465)**	

** Goods & Service Tax (7%)*
*** Source: www.xe.com*
Exchange rate as of 22 Jul 08

ANNEX C

Please remit the amount to our bank by Telegraphic transfer. Details of our account are as follows:

Name of Account	:	Maritime & Port Authority of Singapore
Name of Bank	:	DBS Bank Ltd
Address	:	No. 6 Shenton Way DBS Building Tower 1 Singapore 068809
Bank Account Number	:	0120111681
Telegraphic Transfer / SWIFT code	:	DBSSSGSG

- Please note that all bank charges are to be borne by payer

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
CAPACITY BUILDING COMMITTEE

EAST ASIA HYDROGRAPHIC COMMISSION (EAHC) WORKSHOP ON QUALITY ASSURANCE OF ENC PRODUCTION

- REPORT –

NOVEMBER/2008

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
CAPACITY BUILDING COMMITTEE

SUMMARY SHEET

Title : EAHC Workshop on Quality Assurance of ENC Production

Host Country : Thailand

Venue and Date: the Fairtex Sports Club & Hotel, Pattaya between 4 - 6 November 2008

Organized by: the Hydrographic Department, Royal Thai Navy

Supported by: IHO, MPA and Seven Cs

No. **of participants/countries:** 13 participants from 7 countries

Cost: 8,637.87 Euros

Executive Summary

EAHC Workshop on Quality Assurance of ENC Production was organized and hosted by the Hydrographic Department of the Royal Thai Navy (HDRTN) between 4 – 6 November 2008 at the Fairtex Sports Club & Hotel, Pattaya, Thailand. It was sponsored by IHO and supported by MPA and Seven Cs. 13 participants from 7 countries were attended the workshop. The workshop aims to improve the capacity of EAHC member states in quality assurance of ENC production to meet the IHO requirements. The workshop program consisted of a lecture, hand-on practice and sea trial, allowing participants to obtain more knowledge and experiences. Participants also shared their experiences and techniques in quality assurance of ENC production.

1. TABLE OF CONTENTS

2. INTRODUCTION

The Workshop on Quality Assurance of ENC Production was organized and hosted by the Hydrographic Department of the Royal Thai Navy (HDRTN). It is one of the two courses approved for EAHC under the IHO capacity building work programme for 2008.

3. OBJECTIVES

In general the workshop aims to provide the member states of EAHC the recommendations of ENC production in order that coverage, availability and consistency of ENCs produced for this region meet the IHO requirements. Specifically, the workshop focuses on improving the ENC production capability, especially in quality assurance, of EAHC member states in order to assure safety of navigation.

4. VENUE, DATES AND PARTICIPANTS

The workshop was taken place between 4 – 6 November 2008 in the meeting room of the Fairtex Sports Club & Hotel, Pattaya about 165 km southeast of Bangkok.

All EAHC member states, except China and North Korea, attended the workshop. The list of participants appears as Annex 1.

5. TOTAL COST

Items	Amount (Euro)
Accommodation	1,658.20
Course fee	
Round-trip airfare	3,359.49
Meeting room fee	807.34
Workshop facilities	1,958.11
Sea trial	362.59
Transportation	492.15
Total	8,637.87

6. DESCRIPTION OF DAILY ACTIVITIES

Please refer to Annex 2 for the program of the workshop. The Maritime and Port Authority of Singapore (MPA) kindly supported a lecturer Ms Goh Siew Ngoh Jenny and Seven Cs kindly supported the ENC software for hand-on practice.

Day 1:

The first day of the workshop focused mainly on a lecture reviewing the fundamental of quality assurance of ENC database. A lecture on procedures and details of ENC updating was also delivered to the participants. Participants were invited to share their experiences in ENC production of their organizations.

Ms Goh Siew Ngoh Jenny gave a lecture.

Participants in the meeting room.

Participants introduced themselves.

Participants shared their experiences.

Day 2:

On day 2, a focus was given on hands-on practice on carrying out QA and corrective action using Seven Cs ENC software. The participants learned the difference between warnings and errors, and where important errors occur during ENC production and how to fix them. Participants also shared their experiences and techniques to fix errors.

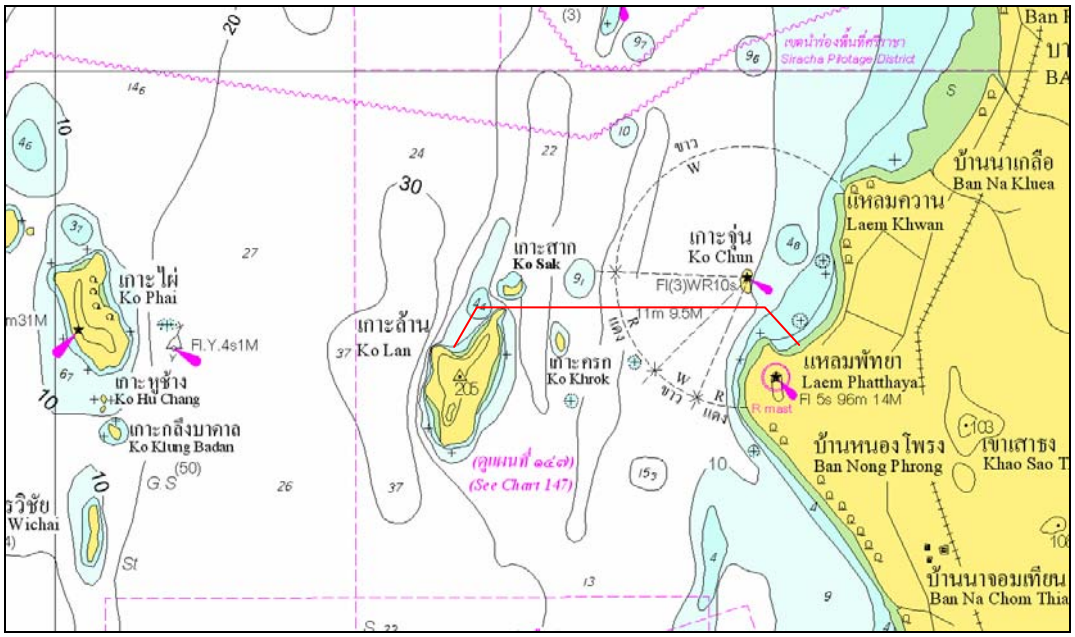
Ms Goh Siew Ngoh Jenny led a hand-on practice session.

Participants shared their techniques and experiences.

Practice and discussion.

Day 3:

The sea trial was organized on day 3. An Electronic Chart System with an ENC of the field area and GPS was installed on a hire boat. The field trip was conducted in Pattaya Bay.



A route (—) of sea trial in Pattaya Bay

Ready for sea trial

Checking the system

Meeting on board




Sea trial

On Ko Lan (Lan Island)


Relaxing on the island

7. COLLATERAL ACTIVITIES

Information on ENC production activities was gathered from participants.

8. EVALUATION OF THE EVENT BY PARTICIPANTS

-

9. EVALUATION OF THE EVENT BY THE REPORTER

The workshop was well organized, especially to include a practice session and field sea trial into the workshop program. Incorporation of a practice session and field sea trial into the workshop program allowed participants to gain more understanding and experiences in checking and updating ENC. Sharing experiences is also an important part of the workshop, which was a good opportunity to learn from each other and to know different types of QA software, i.e. Chart King..

10. CONCLUSIONS AND RECOMMENDATIONS

This kind of courses is very essential for member states who need support to develop their own capacity to meet the requirements. It also ensures that ENCs produced by member states will meet standards for safety of navigation. EAHC Workshop on Quality Assurance of ENC Production is successful to increase participants' skill and knowledge in quality assurance and updating of ENC. Importantly, the workshop strengthens the relationships and cooperation among member states.

11. ACTION LIST (IF ANY)

-

ANNEX 1 - LIST OF PARTICIPANTS

		
LT. Khoirul Anwar S, Si Indonesian Hydrographic and Oceanographic Service, Republic of Indonesia	Mr Shuji Murakami Hydrographic and Oceanographic Department, Japan Coast Guard (JHOD), Japan	Ms Hyosun YOM National Oceanographic Research Institute (NORI), Republic of Korea
		
LT.CDR. Mohd Afinde Bin A. Ghani National Hydrographic Center, Royal Malaysian Navy, Malaysia	Mr Arvin P. Metrillo National Mapping and Resource Information Authority-Coast & Geodetic Survey Department, Republic of the Philippines	Ms Goh Siew Ngoh Jenny Maritime and Port Authority of Singapore, Republic of Singapore
		
CAPT Nattavut Prateepaphalin Cartographic Division, HDRTN	LCDR Punlop Payakleard Cartographic Division, HDRTN	LCDR Rittidate Katetong Cartographic Division, HDRTN
		
LCDR Saman Dairairam Cartographic Division, HDRTN	LT Peerapat Jareanpol Cartographic Division, HDRTN	LT Pairat Pikulthong Cartographic Division, HDRTN
		
LTJG Kritsada Innum Cartographic Division, HDRTN		

ANNEX 2 – PROGRAMME

Date	Time	Description
Tuesday 4 Nov 08	1000 -1700	Opening ceremony by Vice Admiral Nakorn Tanuwong Director General of the HDRTN
		1st Level Quality Assurance of ENC Database **a) Detailed checks on:** **i Cell naming** **ii Data set descriptive (meta) records** **iii Cross verification with paper charts** **iv Digital check** **v Logical check using software (e.g. ENC Analyzer)** **vi Corrective action** **vii Check edited data**
		b) Standardization and documentation **2nd Level Quality Assurance of ENC Database** **a) Harmonization of objects between cells** **b) SCAMIN** **c) Detailed checks on objects crucial to navigation** **i Danger to navigation (e.g. wreck, obstruction)** **ii Regulated area, harbour regulation (e.g. TSS, anchorages, fairways)** **iii Others (e.g. submarine cables, fishing facilities)**
		ENC updating
Wednesday 5 Nov 08	0900 - 1600	**Hands-on practice on carrying out QA and corrective action**
Thursday 6 Nov 08	0900 - 1300	**ECS sea trial**
	1300	Closing ceremony by Rear Admiral Saman Aumchantr, Deputy Director General of the HDRTN

ANNEX 3 - SYNOPSIS OF EVALUATION QUESTIONNAIRES

-

ANNEX 4 – OPENING AND CLOSING REMARKS

Opening remarks
by
Vice Admiral Nakorn Tanuwong
Director General
Hydrographic Department, Royal Thai Navy
4th November 2008

All Participants

It is a great pleasure for me to see you all here and to be part in strengthening the relationships and cooperation among hydrographers in this region. On behalf of the Hydrographic Department of the Royal Thai Navy, I like to welcome you to Thailand and also like to thank you for your participation in this EAHC Workshop on Quality Assurance of ENC Production which is funded by IHO under the Capacity Building Work Program for 2008.

As we all know, ENC is currently a hot issue among our maritime communities. Coastal states are also encouraged by IHO to perform a reasonable progress on production of ENC to cover their own waters in order that the ocean of the world will be fully covered by ENC by the year 2010. Therefore, it is necessary for EAHC as the regional hydrographic commission to join forces in pursuit of this common target.

Quality Assurance of ENC Production is an essential measure to control and reduce errors on ENC production. This workshop will be invaluable for us to ensure ENC quality and then promote safety of navigation.

I would like to thank Maritime and Port Authority of Singapore for supporting lecturer Ms. Jenny for this workshop. I also appreciate the support from Seven Cs for the software that will be used during the hand-on practice.

We have two more days and a half to share and learning together. For those of my special guests from Singapore, Japan, Korea, Philippine, Indonesia and Malaysia, I hope that your stay in Thailand will be both pleasant and productive. Thank you.

Closing remarks
by
Rear Admiral Saman Aumchantr
Deputy Director General
Hydrographic Department, Royal Thai Navy
6th November 2008

All Participants

It is a great pleasure for me to join you all here and to be part of this ceremony. On behalf of the Hydrographic Department of the Royal Thai Navy I like to thank all of you for your contributions to this workshop which has been successful in presenting a picture of the quality assurance of the ENC production. I believe that all participants have learnt various aspects of the ENC quality and that you will be able to disseminate the knowledge and interest which each of you evidently has. I thank you all who have been actively learning and sharing knowledge during the workshop. And one of the most important things is that I do hope that you have established contacts and made friends who will be of future cooperation as well as on a personal basis.

This workshop could not be success without Ms Goh Siew Ngoh Jenny from the Maritime and Port Authority of Singapore. So, I really appreciate your great contribution. I thank Seven Cs for support of software and IHO for financial support. I like to thank staff from the Hydrographic Department for being such a good team working on workshop administration and preparation that brings the smoothness of this event.

Finally, I do hope that you enjoy your stay during the workshop and wish you a good and safe trip back to your home countries. Thank you very much.

PROJECT REPORT

IDENTIFICATION

Project Number : ??????

Project Name:	51st Multibeam Course (OMG-CCOM)
Submitting RHC/Country:	Brazil
Date:	23-28 OUT 2009
Institution executing the project:	Directorate of Hydrography and Navigation (DHN)
Name of responsible:	Aluizio Maciel de Oliveira Junior (Lt. Cmd.) Hydrographer IHO CAT-A (DHN, Brazil, 1998) M.Sc.E. in Geomatics Eng. (UNB, Canada, 2007)
Address:	Av. Barão de Jaceguay, s/n Ponta da Armação, Niterói, RJ CEP 24048-900
Telephone:	55-21-2189-3230 (Office) 55-21-2612-1664 (Home) 55-21-9924-8696 (cel phone)
Fax:	55-21-2189-3237
e-mail:	aluizio@chm.mar.mil.br aluizio94@yahoo.com.br

Results	
Date of start	23 NOV 2009
Date of finish	28 NOV 2009
Changes in scope or focus	There were no changes in scope or focus of the Course
Assessment and Comments	Attendees provided their comments to the instructors to help future improvments in the course. Final lecture was allocated for comments when attendees agreed course was very useful to enhance Hydrography in South America.
Results achieved (output, product, etc.)	There were 4 professors and 60 attendees in the MB course: - 10 members of Hydrografic Services sponsored by IHO-CBC (course registration fee, hotel and meals) – 1 from Argentina, 3 from Brazil, 2 from Peru, 1 from Equador, 1 from Chile, 1 from Suriname and 1 from Uruguay. - DHN had 12 members - Petrobras had 9 members - C&C had 8 member - Fugro, NetSurvey and UniVali had 3 members each - CPRM and Kongsberg had 2 members each - Caris, UFPR, Navoceano, Praticos Vitoria, Hidrotopo, Microars, Somar and Petcon had 1 member each. The course was performed using lectures format. Classes were

	performed from Monday to Saturday, from 8030h-1700h. Each student received 2400 pages of technical material organized in 3 binders.
Comparison with the Achievements and benefits awaited	Attendees were able to have access to the most recent techniques developed to enhance multibeam echosounders quality. Therefore, benefits awaited were sucessfuly obtained, as all attendees will be able to help multibeam operations within their organizations.
Problems experienced	The Orizzonte hotel conference room presented some failures with sound equipment. Hotel performed some correction during Monday morning and provided a regular service. It is recommended to find other venue for a future course.
Suggestion for improvement for similar projects	No suggestion.
Suggestion for follow-up projects	More OMG-CCOM multibeam courses should be planned each 2 or 3 years in South America. Therefore, in regular periods, new hydrographers could be educated with the most recenty techniques, which will help South America countries to keep their capacities in high standards.
Information on the long term effect for Hydrography and the sustainable use	The Course helped to improve capacity of South American Hydrographers to operate multibeam echosounders. Also, allowed great communication between local experts that will help technical communications in the future.

Valuation

	Performance indicator	***Mark***	***Comments***
-	Arrangements		
	Organisation of the project	4	Organization was performed during 2 years and required great effort from DHN. Orizzonte hotel did some failures in the first day. Recommended to find other venue for another course (eg. Windsor Hotel Barra).
	Involvement(contribution) of		
	National partners	-	
	Regional partners	-	
	RHC	-	
	IHB	5	IHO CB funds were important to sponsor RHC participants.
-	Efficiency of the project		
	Goals achieved	5	All atendees demonstrated to be satisfied with lectures and technical knowledge acquired.
	Planned timing	5	
-	Future perspectives		
	Need of similar project (locally, regionally)	5	More OMG-CCOM multibeam course should be organized each 2-3 years in South America.
	Impact on future development	5	
-	Procedure of CBC		
	Application form	5	
	Support received	5	
	Follow up and reporting	5	

FINANCIAL REPORT

	Resources			Comments
	requested	allocated	spent	
Contribution by countries involved	none	none	None	Brazil DHN helped with communications for organization (eg. hotel arrangements, transportation) some material (eg. projectors) for the course.
Contribution by other parties	none	none	None	-
Contribution expected from CBC Fund	€30,000	€30,000	€30,000	
Total Cost (Euros)	€30,000	€30,000	€ 29.705,91	
Breakdown of costs				
From CBC Fund (item and amount)				**Se annex (a)**
From other parties (item and amount)	none	none	none	

- IHO CB Fund sponsored members expenses were organized to fit the 30,000 Euros funds.
- Costs covered course registration, hotel and dinner expenses.
- Funds have been deposited directly to Hydrometrica Ltd. bank account.

ANNEX A

BREAKDOWN OF COSTS FROM IHO CB FUND (REQUESTED and ALLOCATED)

From CB Fund (item and amount)	Item	Per person	Number of persons	Total
	Hotel for participants	€ 50 x 7 nights	10	€3,500
	Food	€ 30 x 5 days	10	€ 1,500
	Course registration	€ 2500	10	€ 25000
	Final amount			€ 30,000

BREAKDOWN OF COSTS FROM IHO CB FUND (SPENT)

R$ => US$	1,73	20 NOV 2009
US$ => €	1,48	20 NOV 2009

	Country			Hotel Solar do Amanhecer			
	I. Members States:	Name:	CBC Fund	Check in	Check out	REAIS	EUROS
1	Argentina	Walter Luiz Reynoso-Peralta	Yes	22/nov	29/nov	1162,00	453,84
2	Brazil	Adriano Vieira de Souza	Yes	22/nov	23/nov	1358,00	530,39
3	Brazil	Jonathas Diniz Coelho	Yes	22/nov	23/nov	shared room w. Adriano	0
4	Brazil	Anderson Barbosa da Cruz Peçanha	Yes	-	-	0	0
5	Chile	Felipe Jaramillo	Yes	22/nov	29/nov	1162,00	453,84
6	Ecuador	Jorge Ariel Alavera Alvarado	Yes	22/nov	29/nov	1162,00	453,84
7	Peru	Cesar Vidal	Yes	25/nov	28/nov	888,00	346,82
8	Peru	Marco Antonio Puma	Yes	22/nov	29/nov	1358,00	530,39
9	Suriname	Cliftian Samidin	Yes	22/nov	29/nov	1162,00	453,84
10	Uruguay	Niki Silveira	Yes	22/nov	29/nov	1162,00	453,84
						9414,00	**3676,77**

From CB Fund (item and amount)	Item	Price	Days	Number of persons	Total	Total (Euros)
	Hotel for participants	Mixed (single and double rooms)	7	10	R$ 9.414,00	€ 3.676,77
	Food (dinner)	R$50,00	7	10	R$ 3.500,00	€ 1.366,97
	Course registration	USD 3.650,00	-	10	USD 36.500,00	€ 24.662,16
	Total					€ 29.**705,91**

IHB SPONSORED TRAINING PROGRAMME

UK HYDROGRAPHIC OFFICE

MODULE 1 – MARINE CARTOGRAPHY

DELIVERED AT MARITIME PORT AUTHORITY (MPA) , SINGAPORE.

Feb 22nd – Mar 26th 2010
Course Review

Background

IHB Circular Letter 59/2009 announced the proposed delivery of Module 1 Marine Cartography of the UKHO internationally accredited programme (Category B).

From the applications received 10 applicants were selected to attend this course. The successful applicants were announced in IHB Circular Letter 76/2009.

Those students were as follows:
Rhonda Amos (Papua New Guinea)
Genevieve Lombaard (South Africa)
Alireza Karimi (Iran)
Kristian Jones (New Zealand)
Nilupa Kumani (Sri Lanka)
Rafael Granados (El Salvador)
Joseva Racaca (Fiji)
Issam Al- Zadjali (Oman)
Mohammad Alam (Bangladesh)
John Ben (Solomon Islands)
Carrie Ang (Singapore) – approval given for an MPA student to attend this course. Carrie Ang attended Module 3 (ENC) of the UKHO programme in 2009.

Administration

The course administration was carried out by UKHO and MPA. MPA made all the local arrangements which included accommodation, transport, allowances, and dealt with the day to day issues relating to the students and the course. Thanks go particularly to Carrie Ang who not only attended and successfully completed the course, but also provided the local liaison and support for the students.

The UKHO made all the necessary flight arrangements, and ensured all the training material was prepared and despatched in a timely manner.

It should be noted that John Ben (Solomon Is) missed his flight which resulted in another flight having to be booked.

Course Aims

The course aims to provide a sound introduction to the techniques and responsibilities required to process hydrographic data into published form. It lays the foundation for compilation of navigational charts.

Primary Course Objective for the students was
“To achieve the minimum training standard achieving an overall pass mark of at least 50%.”

The Course (Module 1 – Marine Cartography)

The course delivered was Module 1 – Marine Cartography of the UKHO’s Category B recognised course.
The full programme comprises additional modules:
Hydrographic Data Processing
Electronic Navigational Charts

The course is highly practical and enables delegates to demonstrate knowledge and aptitude through a series of progressive exercises and assignments. The course supports the Category B standard through demonstration of skills, knowledge and attitudes. The course aims to support a range of learning styles, is interactive and encourages discussion.

Formal and informal assessments were carried out during the course , with feedback provided to individuals and the group.

The course was delivered by the UKHO Training team.

During the course a field trip was undertaken, thanks to MPA, to Raffles Lighthouse. This reinforced the learning, enabled students to relate the chart to real world features, and gain knowledge of navigation techniques.
The course also visited the offices at MPA, to gain an insight into the chart production unit at MPA and place the learning into context.

Student Results

All students successfully completed the course, and are congratulated.
(Annex a – Assessments)

For some the there were language issues, but it is to their credit that they did not let this get in the way of their commitment to the course. They all worked hard, gelled well as a group, and showed commendable determination to succeed.

The feedback from the trainers is that the students supported each other both within the classroom and socially.
A summary of results is at **Annex B.**

Course Evaluations

The end of course evaluations are **Annex C.**

The feedback has been very positive and constructive, with students appreciating the opportunity, and the support provided by the IHB, UKHO and MPA.

Finance/Costs

The IHB kindly funded this programme to a total of 80,000 Euros, with 40,000 allocated to cover training delivery, and up to 40,000 allocated to cover student costs (flights, allowances, accommodation).
Course costs are detailed at **Annex D.**

Conclusion

This course proved to be a success. The selection worked well, with all students working hard and successfully completing the course.

The support provided by MPA was excellent, and they are thanked for providing such a welcoming atmosphere for the trainers and students.
The classroom was not ideal and it was too small for the number of students and not an ideal facility for training. This has been recognised by MPA, and it is to their credit that they reacted to UKHO’s requirements for resources so obligingly.

The joint administration was a concern, but again both parties (UKHO and MPA) liaised well to ensure that all arrangements were in place for the students.

This course was a success due to the generosity and support of the IHB, the support and helpfulness of MPA, the commitment and motivation of students and trainers, and the close liaison between all parties. This was a truly international venture which again demonstrates that such collaborative ventures are important in supporting IHB capacity building initiatives.

Annex A – Assessments
Singapore Training - MARINE CARTOGRAPHY

	Assessed Exercises							
Student	**COMPILATION EXERCISES**		**MISCELLANEOUS**		**TESTS**			
	Worbarrow Bay	King Road	1190 Bearing &Distance	Verification	Mid course test	End of course test	**Average %**	COMMENTS
Student 1	69	68	86	65	78.5	73	**73.3**	
Student 2	61.5	60	83	42	51	44	**56.9**	
Student 3	69.5	61	80.5	77	56	44	**64.7**	
Student 4	64	56	72	70	82	82	**71.0**	
Student 5	53.5	73	86	76	80	81	**74.9**	
Student 6	56	56	69	63	74.5	72	**65.1**	
Student 7	45	51	61	45	59.5	58	**53.3**	
Student 8	55.5	59	80.5	67	69	75	**67.7**	
Student 9	71	72	91.5	77	91	89	**81.9**	
Student 10	50	51	72	57	50.5	62	**57.1**	
Student 11	61	62	72	71	61	60	**64.5**	

Annex B – Course Evaluations.

MARINE CARTOGRAPHY COURSE

Title	Start Date	First Name	Last Name	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Marine Cartogarphy Course	22.02.2010	John	Ben	2	3	3	3	3	4	4	4	4	4
Marine Cartogarphy Course	22.02.2010	Ang	Carrie	3	4	4	4	4	4	4	4	4	4
Marine Cartogarphy Course	22.02.2010	Rhonda	Amos	2	3	4	3	3	4	4	4	4	4
Marine Cartogarphy Course	22.02.2010	Geneviere	Lombaard	2	4	4	4	4	4	4	2	4	4
Marine Cartogarphy Course	22.02.2010	Alireza	Karimi	3	3	4	3	4	4	3	3	3	4
Marine Cartogarphy Course	22.02.2010	Kristian	Jones	3	3	4	3	3	4	4	2	4	4
Marine Cartogarphy Course	22.02.2010	Niluna	Kumani	2	4	4	4	4	4	3	2	4	4
Marine Cartogarphy Course	22.02.2010	Rafael	Antonio	4	3	4	3	3	4	3	3	4	4
Marine Cartogarphy Course	22.02.2010	Joseva	Racaca	3	3	4	3	4	4	4	3	4	4
Marine Cartogarphy Course	22.02.2010	Issam	Ahmed	3	2	2	3	3	3	3	3	3	4
Marine Cartogarphy Course	22.02.2010	Mohammad	Tamzidul	4	3	3	4	4	3	3	4	4	3

Comments:

: Excellent - Overall Presentations & text exercises, notes/Handouts is well organised
: PowerPoint Presentations were really good, Explanations were clear and understandable
: I have learnt so much more than I ever imagined, the instructors were all excellent and well prepared and were able and willing to answer any questions
: The content of the course is wonderful and useful and I strongly believe that anyone working as a marine cartographer needs this kind of knowledge
: I would like to reserve handouts/documents in (word/PDF) format so that I would be able to change into my language so that I would better understand
: The knowledge and expereinces shared by the trainers were a highlight for me. Overall the course content and presentation were of a very high standa
: More time for exercises, divide the Quiz for week for less loading study because it was best for me
: The course was very good in fact excellent, I understood everything. I would say I got what I expected and more the hotel was great.
: I would also like to thank the course instructors for delivering the course in a very understanding way which made it very interesting and not boring!
: So thank you Peter, Martin, Gary and Chris.. And special thanks to Perry and the MPA for their support especially Carrie
: In general the course was very good
: Thanks to IHO, UKHO & MPA

Annex C – Evaluation Questionnaire

The purpose of this questionnaire is to enable Cartographic Training Section to assess and improve the quality of training being provided.

Course Title				**Course No.**
Period of Training	**From**		**To**	
Trainer				

QUESTION	**SD**	**D**	**A**	**SA**	**Remarks**	**Comment**	**Action**
a) The subject matter was generally new to me.	☐	☐	☐	☐			
b) The pace of the instruction was appropriate to my needs.	☐	☐	☐	☐			
c) The level of instruction was appropriate to me.	☐	☐	☐	☐			
d) The time allocated for instruction was adequate.	☐	☐	☐	☐			
e) The sequence of instruction was logical.	☐	☐	☐	☐			
f) The balance between theory and practical was about right.	☐	☐	☐	☐			
g) I now feel more confident in my understanding of the subject matter.	☐	☐	☐	☐			
h) The equipment and facilities used were suitable for my needs.	☐	☐	☐	☐			
i) The handouts and supporting documents were useful.	☐	☐	☐	☐			
j) The quality of the delivery of instruction was good.	☐	☐	☐	☐			
Other comments							

SD = Strongly Disagree D = Disagree A = Agree SA = Strongly Agree

Annex D – Course costs

Student flights:	£12,627.84
Accommodation:	SG$35,577.50
Transport for students:	SG$2328.00
Student allowance:	SG$13,200.00
Technical instruments:	SG$2,659.06
Course material shipment:	SG$211.00