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HD 494 /2010
31 March 2010

Captain Federico BERMEJO
CBSC Secretary
International Hydrographic Bureau
4 quai Antoine 1er
B.P.445
MC 98011 Monaco Cedex

Dear Capt. BERMEJO,

REQUEST FOR FUNDUNG OF COURSES FOR THE EAST ASIA HYDROGRAPHIC COMMISSION CAPACITY BUILDING PROGRAMME 2011

On behalf of the EAHC Member States (MS), we are grateful to the IHO CBSC's support and sponsorship of the training courses over the past three years, which has been benefit for the EAHC MS.

At the 4th EAHC Coordinating Meeting held in January 2010 in Bangkok, Thailand, all MS agreed that the EAHC still needs to increase our ability in hydrographic surveys using new technological systems, raise our competence in creating hydrographic database, and enhance ENC quality especially in a regional scale. As such, the EAHC requests the IHO CBSC to continue supporting the EAHC Capacity Building Programme by sponsoring the training courses and a technical visit.

Enclosed is our application for the IHO CBSC's consideration and approval please.

Sincerely yours,

Vice Admiral Nakorn Tanuwong
Chairman
EAHC

cc: Commodore Romeo I.HO, Vice Chairman (EAHC)
Director, Hydrography Department
National Mapping and Resource Information Authority
Email: oss@namria.gov.ph, noly_reyes@yahoo.com

PART 2
SUBMISSION MODEL

IDENTIFICATION

Project Number:

Project Name:	Capacity Building in the East Asia Hydrographic Commission (EAHC)
Submitting RHC/Country:	EAHC/Thailand
Date:	01 April 2010
Institution executing the project:	EAHC Chair and Member States
Name of responsible:	Vice Admiral Nakorn Tanuwong Chairman EAHC
Address:	Hydrographic Department 222 Rim Tang Rod Fai Kao Road Bangna Bangkok 10260 Thailand
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GENERAL SPECIFICATIONS

(Please provide detailed information in Annex of no more than three pages)

Background information	At the 9th EAHC Conference held in September 2006, the Commission recognized the need for professional training to bridge the gap between technological advances and basic qualifications among EAHC Member States (MS). A permanent EAHC CBC was formed to identify the capacity building needs for the region. The Chief Hydrographers of the Commission meets at the regular annual Coordinating Meeting where Capacity Building is always a top priority on the agenda. At the recent 4th Coordinating Meeting held in January 2010, MS jointly identified 3 areas of training needs. Subsequently, MS prioritized the areas of training needs and the criteria for the prioritizing these needs were based on: importance, priority and implementability. At the 4th EAHC ENC Task Group Meeting held in March 2010, technical assistance was also requested by MS.
Justification of the project	**Training Courses** **Prioritisation** From the prioritization exercise, the immediate training requirements identified were in the order of: a) Database design and management (5 days) b) Multibeam survey and side scan sonar (4 days) c) ENC production and quality assurance (3 days) **Justification** a) Database design and management - Hydrographic information is essential for safety of navigation, economic development and marine protection. New technological advances in data collection and processing have resulted in very rapid growth in the volume of hydrographic data and information in various forms. A database with appropriate design is a solution for efficient management of hydrographic data and information to support those activities. A database is also an essential element of the Marine Spatial Data Infrastructure (MSDI). b) Multibeam survey and side scan sonar - Multibeam sonar systems and side scan sonar are highly sophisticated instruments used for hydrographic surveys, especially in areas requiring total bottom coverage. In order to obtain high-quality outputs, surveyors need to understand fundamental knowledge and how to perform the surveys using those systems.

	c) ENC production and quality assurance - With the impending mandatory carriage of ECDIS and more MS producing ENCs, there is a greater need to improve ENC quality, with emphasis on ENC data harmonization within the region and with adjacent RHCs. **<u>Technical Visit - Justification</u>** At the 4th EAHC ENC Task Group Meeting held in March 2010, Democratic People's Republic of Korea (DPRK) had requested for assistance in improving their hydrographic and cartographic capacity. Therefore, EAHC Chair together with EAHC Vice Chair, EAHC ENC Task Group Chair and East Asia ENC Coordinator plans to make a technical visit to DPRK.
Countries involved	**<u>Training Courses</u>** The countries involved are EAHC Members as listed below: 1. China 2. Indonesia 3. Japan 4. Democratic People's Republic of Korea 5. Republic of Korea 6. Malaysia 7. Philippines 8. Singapore 9. Thailand **<u>Technical Visit</u>** 1. Thailand (EAHC Chair) 2. Philippines (EAHC Vice Chair) 3. Singapore (EAHC ENC Task Group Chair) 4. China-Hong Kong (East Asia ENC Coordinator)
Explanation of the problem	- MS have acquired and used multibeam systems and side scan sonar to increase their survey capability. However, there is still lack of basic understanding and correct procedure of using the systems as well as lack of efficient means to store, process and disseminate hydrographic data and information to support marine activities. - MS have tried to increase their ENC quality following IHO recommendations. However, there is still difference in details of their products resulting in inconsistency in regional scale.
General objective	The EAHC agreed in January 2007 that the EAHC CBC should achieve its vision of its MS by developing together through regional cooperation by: 1. Bridging the gap among MS in the basics of hydrography/cartography and its applications.

	2. Capitalizing on existing expertise amongst MS. 3. Building expertise where none exist through regional training. 4. Working with the IHO CBSC and other relevant organizations.
Specific objectives	These short courses are designed to provide MS: 1. Fundamental knowledge and understanding of the design and management of hydrographic database. 2. Skills in the multibeam survey and side scan sonar and post-processing process by practical work experience 3. Technical competence in ENC production processes. A technical visit to DPRK - to assess, identify and assist in their ENC and cartographic operations to meet the phased-in mandatory carriage requirements for ECDIS from 2012.
Outputs/Products	Training course instructors would be sources from the MS and subject experts from the region may also be invited to share their experience, except in the course of database design and management. Details of course syllabi appear as Annex 1. 2 and 3.
Other deliverables	The training courses and technical visit allow MS to network, share and widen their knowledge in the respective work processes.
Achievements and awaited benefits	1. MS can develop their own hydrographic database. 2. MS can improve their competence in hydrographic surveys using multibeam and side scan sonar. 3. The quality of the ENCs within the region is increased to meet the IHO requirements.
Schedule of activities	a) Database design and management (July 2011) b) Multibeam survey and side scan sonar (September 2011) c) ENC production and quality assurance (November 2011) d) Technical visit to DPRK (after June 2011)
Past and/or current related projects supported by CBC or other sources	• 2008 - QA on MBES hydrographic surveying and post processing (CB Fund) - QA on ENC Production (focusing on ENC production) (CB Fund) • 2009 - QA on MBES hydrographic surveying and post processing (CB Fund) - QA on ENC Production (focusing on ENC production) (CB Fund) • 2010 - Marine cartography and ENC production and QA(focusing on QA) (CB Fund)

RESOURCES

Contribution by countries involved	Course expertise
Contribution from other sources	Course expertise from other HOs or commercial sectors if needed.
Contribution requested from CBCFund	Sponsorship for training fee and accommodation costs for all trainees and trainer.
Total Cost (euros)	a) Database design and management (14,000 Euros) b) Multibeam survey and side scan sonar (14,985 Euros) c) ENC production and quality assurance (12,000 Euros) d) Technical visit to DPRK (4,000 Euros) **Total = 44,985 Euros**

Breakdown of costs

a) From CBCFund (item and amount)

Course-Database Design and Management (5 days)

Item	Cost per person (Euros)	Number of persons	Total (Euros)
Accommodation - 100 Euros/day/person - 6 days (5 days of training + 1 day of arrival) - 10 persons (9 trainees (1 trainee from each EAHC MS) + 1 trainer)	600	10	6,000
Course Fees - return flights, rental of training venue, training software, rental of hardware, training notes, lecturer costs, etc.	800	10	8,000
		Total	**14,000**

Course-Multibeam Survey and Side Scan Sonar (4 days)

Item	Cost per person (Euros)	Number of persons	Total (Euros)
Accommodation - 134 Euros/day/person - 3 days in hotel (2 days of training + 1 day of arrival) and 2 days on training vessel - 9 trainees (1 trainee from each EAHC MS)	402	9	3,618
Course Fees - return flights, rental of training venue, training software, rental of hardware, training notes, etc.	1,263	9	11,367
		Total	**14,985**

Course Outline- ENC Production and Quality Assurance (3 days)			
Item	**Cost per person (Euros)**	**Number of persons**	**Total (Euros)**
Accommodation - 100 Euros/day/person - 4 days (3 days of training + 1 day of arrival) - 10 persons (9 trainees (1 trainee from each EAHC MS) + 1 trainer)	400	10	4,000
Course Fees - return flights, rental of training venue, training software, rental of hardware, training notes, lecturer costs, etc.	800	10	8,000
	Total		**12,000**
Technical Visit to DPRK (2 days)			
Item	**Cost per person (Euros)**	**Number of persons**	**Total (Euros)**
Accommodation - 100 Euros/day/person - 3 days (2 days of visit + 1 day of arrival) - 5 persons - EAHC Chair + 1 officer from Chairman office (Thailand) - EAHC Vice Chair (Philippines) - EAHC ENC Task Group Chair (Singapore) - East Asia ENC Coordinator (China-Hong Kong)	300	5	1,500
Return flights	500	5	2,500
	Total		**4,000**
b) From other parties (item and amount)			
Host MS would provide administrative support and logistics arrangements including training vessels.			

PROJECT SUMMARY

Sponsor RHC	Year of Execution	Country/ Countries involved	Priority/ Status	Project Name	Project Objective	Benefits	Assistance required	Cost (Euros)	Allocation and Priority (to be filled by CBC)	Contact Person
EAHC	2011	EAHC Members	1	Database design and management	Professional training to raise fundamental knowledge and understanding of the design and management of hydrographic database	MS can develop their own hydrographic database.	CB Funds for training fee and accommodation costs.	14,000		VADM Nakorn Tanuwong, Chair(EAHC)
EAHC	2011	EAHC Members	2	Multibeam survey and side scan sonar	Professional training to provide skills in the multibeam survey and side scan sonar and post-processing process by practical work experience technical competence	MS can improve their competence in hydrographic surveys using multibeam and side scan sonar.	CB Funds for training fee and accommodation costs.	14,985		VADM Nakorn Tanuwong, Chair(EAHC)
EAHC	2011	EAHC Members	3	ENC production and quality assurance	Professional training to raise technical competence in ENC production processes	The quality of the ENCs within the region is increased to meet the IHO requirements.	CB Funds for training fee and accommodation costs.	12,000		VADM Nakorn Tanuwong, Chair(EAHC)
EAHC	2011	Thailand, Philippines, Singapore and China (Hong Kong)	4	Technical visit to DPRK	to assess, identify and assist in ENC and cartographic operations to meet the phased-in mandatory carriage requirements for ECDIS from 2012	To enhance hydrographic and cartographic capacity and regional coorperation.	CB Funds for accommodation costs and return flights.	4,000		VADM Nakorn Tanuwong, Chair(EAHC)

Name and Signature of the RHC Chairman.....

Vice Admiral Nakorn Tanuwong
Chairman, EAHC

ANNEX 1
Course Outline-Database Design and Management

Detail	Duration
1. Introduction to Database 2. Database Architecture 3. Data Model (with hand-on practice)	1 day
4. Entry-Relationship Model (with hand-on practice) 5. Database Design (with hand-on practice) 6. Normalization (with hand-on practice) 7. SQL Commands (with hand-on practice)	3 day
8. Transaction Management 9. Other database	1 day
Total	**5 days**

ANNEX 2
Course Outline-Multibeam Survey and Side Scan Sonar

Detail	Duration
1. Lecture 1.1 IHO Standard for Hydrographic Survey (S-44) 1.2 GPS positioning Systems 1.3 Data Collection Systems 1.4 Multi-beam Echo Sounder Systems 1.5 Coverage and Accuracy 1.6 System Calibration (Patch Test) 1.7 Software overview	1.5 days
2. Practical work (Handling of Survey Instruments) 2.1 Multi-beam Echo Sounders 2.2 Side-scan sonar 2.3 Automated hydrographic survey acquisition system 2.4 Other Equipments	1.5 days
3. Data Processing 3.1 Quality check 3.2 Assurance for multibeam survey data	1 day
Total	**4 days**

ANNEX 3
Course Outline- ENC Production and Quality Assurance

Detail	Duration
Planning and Organising the QA Process	
Quality Assurance of ENC Database	
a) Verification : 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. Check edited data b) Harmonisation of objects between cells c) SCAMIN d) 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) e) Corrective Action f) Practicals- Hands-on practice on carrying out QA and corrective actions g) Standardisation and documentation	1 day
Harmonisation of Paper Chart and ENC databases	
a) ENC and Paper coverage and compilation scales b) Comparison of Meta data eg. Zones of Confidence c) ENC and paper chart updating d) T and P notices e) Practicals- Hands-on practice on carrying out QA and corrective actions f) Standardisation and documentation	1 day
Field Verification of ENCs	
ECDIS Sea Trials – verification of ENCs	
	1 day
Review	
a) Review and conclusion of training course	
Total	**3 days**