# EAHC Workshop on Quality Assurance of ENC Production Thailand, 4-6 November 2008



#### **INTRODUCTION**

The 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 about 165 km southeast of Bangkok. It was sponsored by IHO under the capacity building work programme for 2008.

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.

The workshop was attended by 13 participants from 7 countries, namely Indonesia, Japan, Malaysia, The Republic of Korea, The Philippines, Singapore and Thailand. The list of participants appears as Annex 1.

#### 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. 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.

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.

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

#### CONCLUSION

The workshop was well organized, especially to include a practice session and field sea trial into the workshop program, allowing 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 for the participants to learn from each other and to know different types of QA software, i.e. Chart King. 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.

## ANNEX 1-LIST OF PARTICIPANTS



LT. Khoirul Anwar S, Si Indonesian Hydrographic and Oceanographic Service, Republic of Indonesia



LT.CDR. Mohd Afinde Bin A. Ghani National Hydrographic Center, Royal Malaysian Navy, Malaysia



CAPT Nattavut Prateepaphalin Cartographic Division, HDRTN



Mr Shuji Murakami Hydrographic and Oceanographic Department, Japan Coast Guard (JHOD), Japan



Mr Arvin P. Metrillo National Mapping and Resource Information Authority-Coast & Geodetic Survey Department, Republic of the Philippines



LCDR Punlop Payakleard Cartographic Division, HDRTN



Ms Hyosun YOM National Oceanographic Research Institute (NORI), Republic of Korea



Ms Goh Siew Ngoh Jenny Maritime and Port Authority of Singapore, Republic of Singapore



LCDR Rittidate Katetong Cartographic Division, HDRTN



### ANNEX 2 – PROGRAMME

Date	Time	Description
Tuesday	1000 -1700	Opening ceremony by Vice Admiral Nakorn Tanuwong Director
4 Nov 08		General of the HDRTN
		1 <sup>st</sup> 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
		2 <sup>nd</sup> 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	0900 - 1600	Hands-on practice on carrying out QA and corrective action
5 Nov 08		
Thursday	0900 - 1300	ECS sea trial
6 Nov 08	1300	Closing ceremony by Rear Admiral Saman Aumchantr, Deputy
		Director General of the HDRTN

#### ANNEX 3 - OPENING AND CLOSING REMARKS



Opening remarks by Vice Admiral Nakorn Tanuwong Director General Hydrographic Department, Royal Thai Navy 4<sup>th</sup> 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 Goh Siew Ngoh 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 6<sup>th</sup> 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.

Reported by HDRTN, Thailand