

**EAHC Capacity Building Programme 2009
TRAINING REPORT**

I. COURSE TITLE

ENC Quality Assurance Course

II. COURSE DESCRIPTION

ENC quality assurance is aimed at ensuring that the data contained by the ENC and exhibited at the ECDIS are accurate, reliable and sufficient to serve its purpose.

III. DURATION AND DATE

Three Days (August 25, 26, 27, 2009)

IV. AUTHORITY

The training course was conducted in compliance with the agreement regarding the Capacity Building Training Programme for 2009 during the 3rd EAHC Coordinating Meeting held in February 2009 in Sanya, China. The programme invitation was distributed thru EAHC Circular Letter No. 06/2008 dated 26 May 2009.

V. PURPOSE

The aim of the course is to teach trainees on ENC quality assurance who would in turn train their hydrographic officers or ENC production staffs in their respective countries.

VI. SPONSOR AND SOURCE OF FUND

International Hydrographic Organization – Capacity Building Committee (IHO CBC)

VII. HOST COUNTRY

Philippines

VIII. IMPLEMENTING AGENCY

National Mapping and Resource Information Authority (NAMRIA)

IX. TRAINING VENUE

- A. Geomatics Training Center, NAMRIA Building, Fort Bonifacio, Taguig City
- B. BRP Hydrographer Presbitero, Subic Bay, Olongapo City, Zambales

X. PARTICIPATING COUNTRIES/STATES

EAHC Member State	Lecturer	Trainee
China, Peoples Republic	0	0
Hong Kong	0	0
Indonesia, Republic of	0	1
Japan	0	1
Korea, Republic of	0	1
Korea, Democratic People's Republic of	0	0
Malaysia	0	1
Thailand, Kingdom of	0	1
Philippines, Republic of	0	8
Singapore	1	0

A. Lecturer (1)

- 1. Singapore - Goh Siew Ngoh

B. Trainees (13)

- 1. Indonesia (1) - Anom Puji Hascaryo
- 2. Japan (1) - Kazuki Hayashi
- 3. Korea (1) - Woong Kyo Song
- 4. Malaysia (1) - Mohd Faurizul bin Yusof MD
- 5. Thailand (1) - Lertsak Noonim

6. Philippines (8) - Lionel Cerezo
Dante Dimalibot
Marvin Espino
John Labindalawa
Carter Luma-ang
Ruel Macayan
Arvin Metrillo
Kristoffer Zapanta

XI. COURSE OUTLINE

Day 1

- Overview of IHO S63
Planning and Organizing the QA Process
1st Level Quality Assurance of ENC Database
- Detailed Checks on
 - Cell Naming
 - Data Set Descriptive (Meta) Records
 - Cross Verification with Paper Charts
 - Digital Checks
 - Logical Check Using Software (e.g. ENC Analyzer)
 - Corrective Action
 - Check Edited Data
 - Standardization and Documentation

Day 2

- 2nd Level Quality Assurance of ENC Database
- Harmonization of Objects Between Cells
 - SCAMIN
 - Detailed Checks on Objects Crucial to Navigation
 - Danger to Navigation (e.g. Wreck Obstruction)
 - Regulated Area, Harbor Regulation (e.g. TSS, anchorages, fairways)
 - Others (e.g. submarine cables, fishing facilities)
- Field Verification of ENC
- ECDIS Sea Trial

Day 3

Practical

- Hand-on practice on carrying out QA and corrective action

Review

- Review and conclusion of training course

XII. SOFTWARES USED/DEMONSTRATED

- A. ENC Analyzer – The validation component of the ENC Tools Suite distributed by 7C's and HAS Systems. It loads S-57 ENC, Additional Military Layers (AML) and inland ECDIS datasets and runs an extensive series of checks to identify the wide variety of errors that can occur during the initial production phase and the subsequent maintenance cycle.
- B. ENC Manager – A software that allows storage of ENC data sets in a logical structure similar to a dataset.

XIII. DISCUSSIONS AND OBSERVATIONS

Day 1 (August 25, 2009)

The training commenced soon after the participants rendered a courtesy call to the officials of the National Mapping and Resource Information Authority (NAMRIA).

The morning lecture began with a brief review on S-63 (IHO Standards for Data Protection Scheme), particularly on the participants of the scheme and their functions namely: Scheme Administrator, Data Server, Data Client and Original Equipment Manufacturer. The significance of compression and encryption of ENC data was also highlighted. Also discussed were: meaning, relevance and standards used in creation of ENC; S-52 (Specifications for Chart Content and Display Aspects of ECDIS); S-57 (IHO Transfer Standard for Digital Hydrographic Data); and S-100 as a promising standard for next generation ENCs and ECDIS production. The consistency, quality and availability of ENC, as well as, the new International Maritime Organization (IMO) approved amendments on Safety of Life at Sea (SOLAS) obliging all large passenger, tanker and cargo ships to fit ECDIS on a rolling table beginning July 2012, were also brought to attention.

The afternoon session started with each delegate presenting their local office's capabilities and progress in ENC production. The lecturer later presented the different levels of Quality Assurance checks on ENC production performed in Singapore: (1) 1st level QA; (2) 2nd level QA; (3) review by the Section Heads; (4) field verification of ENC; and lastly, approval of the Chief Hydrographer.

Various topics on 1st level QA were discussed, starting from paper plot checking procedures that include comparison of plotted ENC cell to paper nautical charts, to various digital checks, to overlaying of raster and error log files, and to correcting error log files. Likewise, procedures of 2nd Level QA were discussed: from comparison of 1st level QA result to Nautical Chart Paper Plot; to completing of ENC QA checklist; to Section Head reviews and selective QA checks; to field verification using ECDIS, visual check, position check and data check; and lastly, securing approval from the Chief Hydrographer before finally released to end users.

Day 2 (August 26, 2009)

The second day focused on updating ENCs as set by the IHO WEND principles. The lecturer explained the importance of maintaining the data once the ENC is released and that effective solutions are ought to be prepared beforehand. Moreover, she emphasized the significance of issuing and providing timely updates available for mariners. Significant improvements in the new WEND guidelines related to coverage, consistency, quality, updating and distribution were also identified. It was agreed that there is a need to establish the cartographic capability and infrastructure prior to undertaking ENC production and maintenance.

Later on the same day, the team traveled to Subic Bay, Zambales for the Field Verification of ENC. The participants boarded the BRP HYDROGRAPHER PRESBITERO for the ECDIS Sea Trial. Also, the Officers of the vessel showed the participants her data collection capabilities and navigational equipment, particularly, the ECDIS. The vessel left port for the ENC demonstration and returned after two hours.

Day 3 (August 27, 2009)

The participants were able to practice carrying out QA and corrective action through hands on activity prepared by the trainer on the last day of training. The activity helped the participants familiarize the features of the 7Cs software: the ENC Analyzer, for applying necessary corrections on the production of ENC; the ENC Designer, for editing; and, the ENC Manager for making new updates, re-issuing, and making new editions of ENC. A short dialogue on problems encountered by the participants in the production of ENC in their local office and how it can be solved followed.

The training ended with handing of training certificates and small tokens of appreciation from the host agency.

Reported by Philippines