



THAILAND

NATIONAL REPORT

14th NORTH INDIAN OCEAN HYDROGRAPHIC
COMMISSION (NIOHC) CONFERENCE

Bangkok, Thailand

26th – 28th February 2014

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1. Hydrographic Office / Service

Established in 1921, Hydrographic Department, Royal Thai Navy or “HDRTN” is a Thailand national hydrographic office whose mission is to carry out the function of organization covering hydrographic and oceanographic surveys, tidal prediction, aids to navigation maintenance, marine environment, nautical charts and publications, standard time keeping, marine meteorological forecasting and other activities for safety of navigation to support both public and military need in the Gulf of Thailand and the Andaman Sea. The present Director General is Vice Admiral Witon Tantigun, who has held this position since 1st October 2013 up until now.



Figure.1 The Organizational Structure of HDRTN

2. Surveys

HDRTN conducted 5 hydrographic surveys since last year. The results of such hydrographic surveys were utilized for production of nautical charts and other charts required by Royal Thai Navy and maritime community.

Type of survey	FY 2013
Harbor Survey	1
Approach Survey	4
Total	5



To meet IHO S-44 standard, HDRTN has been strengthening the hydrographic infrastructure construction, pushing forward the generalization and application of new technology and equipments, and improving the capability and quality of hydrography. Currently, HDRTN possesses a series of modern equipments such as multi-beam echo-sounders, side-scan sonar, high accuracy GPS/DGPS, the new built multipurpose vessel for hydrographic surveying “HTMS Pharuehatsabodi”, 3 small survey boats namely Loma1, Loma2, and Loma3 equipped with modern survey instruments on board and make great progress in the function exploration and technical application of advanced equipments.

3. New Charts and Updates

The production of nautical charts and Electronic Navigation Charts (ENCs) are progressing well with the improvement of modern software and hardware capabilities. The results of those mentioned surveys in 2013 were then implemented to produce Thai nautical charts and other related charts in Thai waters. Nautical charts produced in 2013 are shown as below:

Type of Production	FY 2013
New Chart	1
New Edition	4
Total	5

3.1 Paper Charts

HDRTN has produced totally 79 paper charts (large, medium, small scales) covering Thai waters. The followings are the charts produced in 2012.

3.1.1 Produced 1 New Chart

Thai Chart Number	INT Chart	Title	Scale	Datum
272	-	Ang Thong Islands (Ko Chueak to Ko Tungku)	12 000	WGS84

3.1.2 Produced 4 New Edition Charts

Thai Chart Number	INT Chart	Title	Scale	Datum
110	-	Krung Thep Port Zone 1 (Bangkok Port Zone1)	12 000	WGS84
137	-	Si Racha (Ao Udom)	12 000	WGS84
157	-	Map Ta Phut Industrail Port	12 000	WGS84
159	-	Bang Phra to Ang Sila	22 000	WGS84

3.2 Electronic Navigation Chart (ENC)

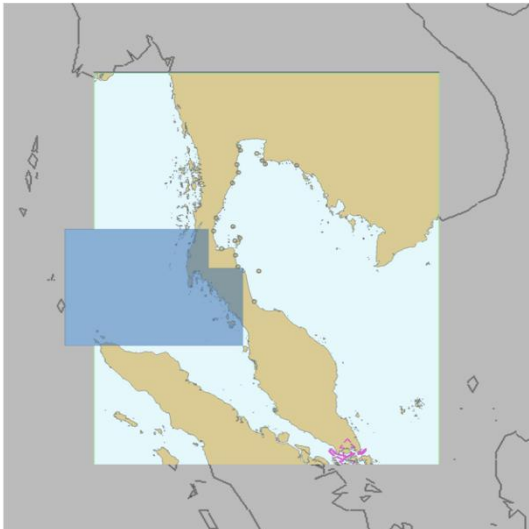
HDRTN has plan to produced ENC only 44 cells covering 11 Thailand main shipping routes starting from 2006 to 2012 as the first priority in order to support IMO ECDIS carriage mandatory by 2012. Such main shipping routes have currently covered by 37 cells in different bands (approx.84%) and the remaining 7 cells, mostly large scales, needed to re-survey due to out of date data and non WGS 84 framework. However, as mentioned earlier, all Thailand main shipping routes to major ports are expected to be fully covered by ENCs in the year 2012. Coverage currently comprises 1 Overview, 1 General, 9 Coastal, 12 Approach, 13 Harbour and 1 Berthing cell.

TH Overview Usage Band Coverage



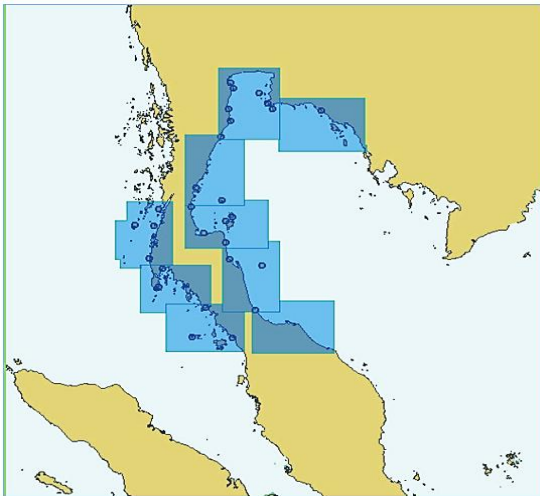
- TH100045

TH General Usage Band Coverage



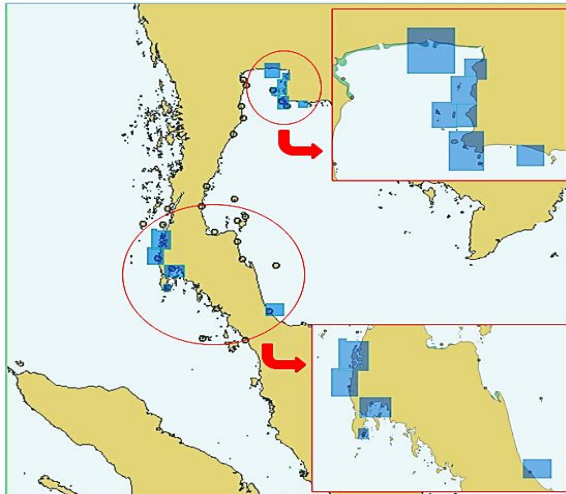
- TH200362

TH Coastal Usage Band Coverage



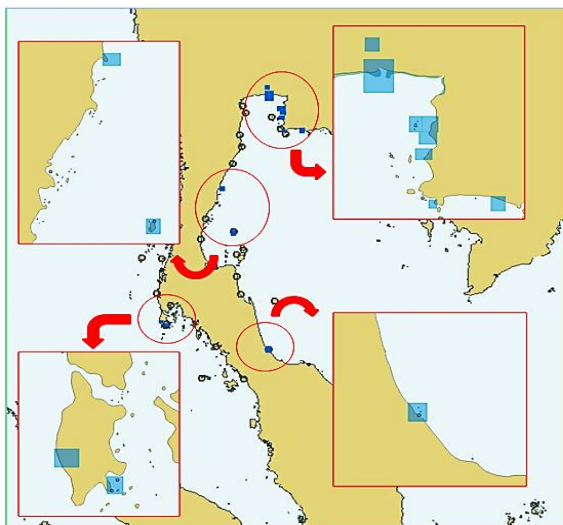
- TH300001
- TH300102
- TH300204
- TH300205
- TH300206
- TH300307
- TH300308
- TH300309

TH Approach Usage Band Coverage



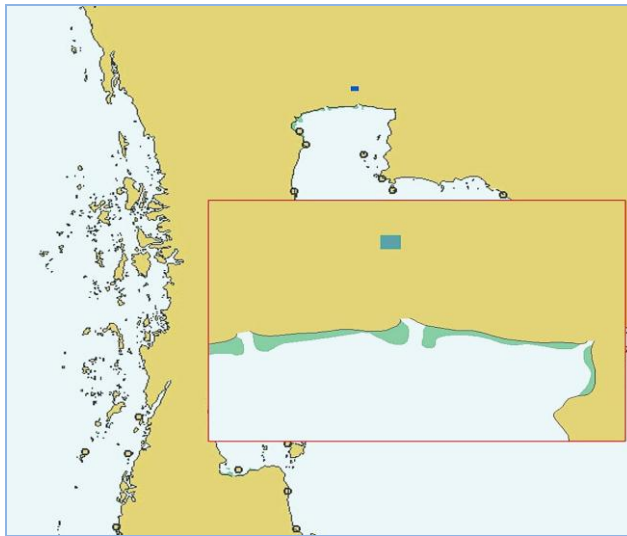
- TH400112
- TH400115
- TH400147
- TH400159
- TH400164
- TH400169
- TH400171
- TH400229
- TH400332
- TH400333
- TH400335
- TH400353

TH Harbour Usage Band Coverage



- TH50112A
- TH50115A
- TH50147A
- TH50229A
- TH50335A
- TH500111
- TH500114
- TH500137
- TH500156
- TH500170
- TH500260
- TH500265
- TH500358

TH Berthing Usage Band Coverage



- TH60111A

4. New Publications and Updates

HDRTN has been producing and updating a number of publications, including

- INT 1 symbols, abbreviations, terms used on charts (Thai version). New Edition 5 – 2010
- List of Lights and Buoys in Thai Water 2013
- Tide table in Thai Water 2014
- Sunrise – Sunset and Moonrise – Moonset Thailand A.D.2014



5. Maritime Safety Information (MSI)



HDRTN issued 176 notices to mariners since the last NIOHC conference until January 2014 both in Thai and English Languages. They were distributed through the Navy Radio stations run by Royal Thai Navy and Bangkok Radio coast stations run by CAT Telecom (Public) Co.Ltd. Notices to Mariners and marine weather forecast were issued by such two organizations

but the latter one provides 4 coastal stations to additionally service tele-communication between ship to shore and among ships via VHF, MF and HF bands. Such information is mostly concerned with nautical charts update, safety of navigation, maritime distress monitoring, natural disaster warning and other information necessary to mariners.

6. C-55

6.1 Status of Hydrographic survey of all navigable waters, including internal waters, out of the limits of the EEZ.

Survey coverage, where:

A = percentage which is adequately surveyed.

B = percentage which requires re-survey at larger scale or to modern standards.

C = percentage which has never been systematically surveyed.

	A	B	C
Depth < 200 m	100	36	0
Depth > 200 m	15	89	85

6.2 Status of Nautical Charting Information

Coverage of charts published by HDRTN, where:

A = percentage covered by INT series, or a paper chart series meeting the standards in M-4.

B = percentage covered by Raster Navigational Charts (RNCs) meeting the standards in S-61.

C = percentage covered by ENC's meeting the standards in S-57.

	A (%PaperCharts)	B (%RNC)	C (%ENC)
Offshore passage/Small scale	40	-	40
Landfall and Coastal passage/Medium scale	100	-	81
Approaches & Ports/Large Scale	98	-	93

Note: - Paper Charts

- HDRTN has already produced 79 paper charts (out of 83 planned charts)

- Offshore passage/Small scale: 2 paper charts (out of 5 planned charts) = 40%

- Landfall and Coastal passage/Medium scale: 20 paper charts (out of 20 planned charts) = 100%

- Approaches & Ports/Large Scale: 57 paper charts (out of 58 planned charts) = 96%

- ENC's

- HDRTN has already produced 37 ENC's (out of 44 planned ENC's)

- Offshore passage/Small scale: 2 ENC's (out of 5 planned ENC's) = 40%

- Landfall and Coastal passage/Medium scale: 9 ENC's (out of 11 planned ENC's) = 81%

- Approaches & Ports/Large Scale: 26 ENC's (out of 28 planned ENC's) = 93%

6.3 Status of Maritime Safety Information

6.3.1 Navigational Information

SERVICE	Yes	No	Partial	Notes
Local warnings	/			Issued by HDRTN Coordinated with CAT Telecom Co.,Ltd.
Coastal warnings	/			
Navarea warning NAVAREA	/			
Information on ports and harbours	/			By Port Authority and Marine Department

6.3.2 GMDSS Implementation

SERVICE	Yes	No	Partial	Notes (run by)
Master Plan	/			Under proceeding by Marine Department
A1 Area1			/	
A2 Area2		/		
A3 Area3		/		
NAVTEX	/			CAT Telecom Co.Ltd.
Safety NET	/			

7.Capacity Building Program

In 2014

- Prepared to send 1 officer to attend Hydrographic Specialization course in Indonesia.
- Prepared to send personels to study in 20 specific courses organized by others agency and Mapping company in Thailand.
- HDRTN will attend EIHC, EAHC, NIOHC Meeting.
- Prepared to install Caris HPD for Survey and Cartographic Database.

8. Oceanographic Activities

8.1 Tide Prediction

The HDRTN provides tide table on 28 sites within Chao-Phraya River and Thai Water. The tide prediction use raw data from HDRTN, Port Authority of Thailand, and Marine Department tide gauge networks.

8.2 Sea Level determination

Providing sea level data to Permanent Service for Mean Sea Level of UK and University of Hawaii Sea Level Center (UHSLC)

8.3 Tide gauge programme

Two acoustic tide gauges have been installed along the Chao-Phraya River. In Andaman Sea, six radar tide gauges are already installed and two acoustic tide gauges will be changed to radar tide gauges in 2014. Tide gauges in Gulf of Thai are six radar tide gauges, one acoustic tide gauge and one buoy tide gauge.

9. Other Activities

9.1 Aids to Navigation Activities

9.1.1 Maintenance of Aids to Navigation along The Gulf of Thailand and Andaman sea including 9 lighthouses, 79 beacons, 6 leading lights, 75 buoys.

9.1.2 Installation of Automatic Identification System (AIS) into Aids to Navigation along the Gulf of Thailand and Andaman sea including 8 Base Stations, and 39 A to N station.



9.2 Marine Meteorological Activities

In cooperation with meteorological authorities, HDRTN has established a couple of automatic weather stations along Thailand coast for the observation of air temperature, relative humidity, air pressure, wind, precipitation rainfall, and visibility. The action maximally realized the integration of resources and sharing of information, and serve directly to the mariners.



9.3 Standard Time Keeping Activity

One of the task of HDRTN is standard time keeping for the nation with cesium clocks including national standard time, international time telling service and time transfer. All time transfers can be traced back to international time standard provided by Bureau International des Poids et Mesures (BIPM).

9.4 International Activities

HDRTN participated in the international activities as follows:

- January 2013** - attended 7th EAHC Coordinating Meeting and 10th EAHC ENC Task Group Meeting, Busan, Republic of Korea.
- May 2013** - attended 5th IRCC Meeting and 11th CBSC Meeting, Australia.
- June 2013** - attended 1st EAHC Cartography and Hydrography Meeting, Philippines.
- attended Boundaries and Water Training by International Boundaries Research Unit (IBRU), USA.
- June – July 2013** - attended 27th Session of the IOC Assembly, UNESCO Paris.
- September 2013** - visited EAHC Training, Research and Development Center Board of Director (TRDC BOD), Busan, Republic of Korea.
- attended 3rd EAHC Commission; S-100 Seminar and Stakeholder Forum, Busan, Republic of Korea.

10. Conclusion

Since established in 1921, HDRTN has been engaged in carrying out hydrographic/oceanographic surveys and observations. The outcomes of these surveys and observations have been made beneficially available to mariners, military, private sectors and governments to make both safer navigation and sustainable country development.

In recent years, HDRTN has contributed such a great effort to increase the safety of navigation, to prevent marine disasters and to protect marine environment through its activities and making full use of the forefront technology. It has an intention to promote cooperation with other hydrographic officers not only on a regional basis but also on a global level. Even though it sometimes, like the MSs, get difficult in budget constraints, HDRTN still will do its best to maintain its mission and responsibility and to meet the future challenge of the changing world.