



**NATIONAL HYDROGRAPHIC REPORT
OF THE
MYANMAR NATIONAL HYDROGRAPHIC CENTRE
MYANMAR NAVY**

To

**10th NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION
MEETING**

DHAKA, BANGLADESH

23-24, FEBRUARY, 2010

1. Hydrographic Office/ Service

Starting from 1955, the Hydrographic Unit was formed to carry out hydrographic survey activities in Myanmar waters and established as Naval Hydrographic Depot in 1957. Although not yet becoming a national hydrographic organization, the office has been taking the leading role in conducting coastal and harbour hydrographic surveys for publishing charts and relevant publications to fulfill for safety of navigation to support both public and military needs in our country. Since the introduction of oceanographic division in 1964, Oceanographic activities were conducted jointly with local and international organizations. The office became a member of IHO in 1956 and has been working in cooperation with IHO and IOC. Recently Myanmar National Hydrographic Centre (MNHC) has been introduced with affiliated services like Department of Meteorology Hydrology (DMH), DWIR, Myanmar Port Authority (MPA) and. The Director of MNHC is Commodore Maung Oo Lwin, Alternate Director is Commodore Myo Myint Than and Captain Min Thein Tint is the Commanding Officer of Myanmar Naval Hydrographic Centre.

The introduction of Post Graduate Officers in Hydrography may enhance future technical cooperation with the other Hydrographic Offices within NIOHC.

2. Surveys

2.1 Hydrographic Survey Activities

MNHC conducted 14 hydrographic surveys in 2009 and it also conducted the survey offshore for claiming continental shelf extending at beginning of that year. The result of those surveys was produced paper charts and other plan charts for the Maritime usage and other purposes.

Type of survey	2008	2009
Harbour survey	4	12
Coastal survey	1	1
Offshore survey	1	-
Updating Survey (Special surveys for Nargis effected areas.)	1	1
Total	7	14

The periodic updating survey activities in 2008/09 were at Ayarwaddy Delta Area after Nargis cyclone for producing Paper Charts. Continental shelf survey (2008/09) was conducted jointly with India for claiming of extended Myanmar Continental Shelf beyond 200 M in Bay of Bengal Area and relevant Submission to UN has been completed in 16 December 2008.

2.2 **New Technologies / or Equipment:** Nil.

2.3 **New Ships :** Nil.

2.4 **Problems encountered:** Assistance in training and new surveying facilities is needed.

3. New Charts and Updates

Nautical charts are produced annually. The results of those surveys in 2009 were introduced into Nautical charts and produced in 2009 are shown as bellow:-

Type of production	2008	2009
New chart	4	4
New Publication	-	4
New edition	-	1
New print	-	1
Total	4	10

3.1 Paper Charts :

3.1.1 (4) New Charts

- No-36 a1, Mouth of Bogalay River , 1: 40000,WGS-84
- No-35b1, Mouth of Ayeyarwaddy River, 1: 40000, WGS-84
- No-35a1, Mouth of Pyinsalu River, 1: 40000, WGS-84
- No-34b, Mouth of Ywe River, 1: 35000, WGS-84

3.2 ENC's : The ENC charting scheme (2005-2011) has been introduced in Myanmar waters jointly with Myanmar Maritime University (MMU) and Hawaii University.

3.3 RNCs : Nil

3.4 INT Charts: Yangon River and Approaches Chart, 09a, was produced in 2007 and sent to UKHO office in 2008 and UKHO

reprint and that chart as Admiralty Chart No. 833 and INT chart No. 7442 in 2009.

- 3.5 Problems Encountered:** Producing commercial chart according to IHO standard may be required.
4. **New Publications and Updates**
- 4.1 **New Publication:** Tide tables for Myanmar coastal waters are Published annually and Notices to Mariners have been issued regularly.
- 4.2 **Mean of Delivery e.g. Paper / Digital:** Paper
- 4.3 **Problems Encountered:** Nil.
5. **Maritime Safety Information (MSI)**
- 5.1 Notices to Mariners in English are distributed in time depending on information that has been sent to Hydrographic Office concerning Chart correction, Aid to Navigation, Ship Wrecks and Oil and Gas Exploration Activities. Notices to Mariners were distributed in 2008 and 12 Notice to Mariners were distributed up to April 2009.
- 5.2 **GMDSS** has been operated in Myanmar since 1998 by Myanmar Five Stars Shipping Line, Ministry of Transport.
- 5.3 **Problems Encountered:** Nil.
6. **S-55 Latest Update**
- 6.1 **Status of Hydrographic Surveying:**
- 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.
- 6.2 **Status of Nautical Charting :**
- 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 Electronic Navigational Charts (ENCs), meeting the standards in S-57

	A	B	C
Depth<200m	40%	60%	-
Depth>200m	-	-	-

	INT/Paper Chart(A)	RNCs(B)	ENCs(C)
Offshore Passage/ Small scale	-	-	-
Landfall and Coastal	60%	-	-
Approaches and ports/Large Scale	100%	-	-

6.3 Status of Marine Safety Information:

6.3.1 Navigational Information

Service	YES	NO	Partial	Remarks
Local Warnings	✓			
Coastal Warnings	✓			
NAVAREA Warnings				Received/sent to India
Port Information	✓			Myanmar Port Authority

6.3.2 GMDSS Implementation

Service	YES	NO	Partial
Master Plan	✓		
A1 Area	✓		
A2 Area	✓		
A3 Area	✓		
NAVTEX	✓		Received/sent to Singapore
Safety Net	✓		

6.4 National Priorities for International and or Regional Co-operation or Assistance:

6.4.1. International or regional project in Myanmar waters.

According to the recommendations of Intergovernmental Oceanographic Commission (IOC), the Myanmar National Hydrographic Centre is in the planning stage of Pilot Project for COAST-MAP-IO Project as follows:

- (aa) Due to the crucial role of bathymetry in the project, the MNHC should be responsible for the establishment and management of the seamless COAST-MAP-IO bathymetric and topographic database.
- (bb) Priority will be given to the provision of digitizing tools, with adequate training for the digitization of the existing survey sheets.
- (cc) Appropriate means and training may be necessary to manage the bathymetric and topographic data-base.
- (dd) The Nargis effected zone identified on the annexed diagram should be used as pilot area for the project when the situation permits.

6.4.2 Priorities for co-operation or assistance:

- (aa) Projects meriting IHO liaison with international funding agencies:
 - (i) Regional co-operative projects : Nil.
 - (ii) National Projects : Feasibility studies and technical transfer through joint surveys.
- (bb) Requirement of training assistance :
 - (i) Hydrographic Surveying : CAT 'A' and CAT 'B' Courses.
 - (ii) Cartographic Course : Basic and Advance.
 - (iii) MSI : Up-date facilities will be required in the

future.

(cc) Requirement for assistance with procurement of equipment :

- (i) Technical advice on procurement options : Yes.
- (ii) Transfer of equipment : Yes. (Through Aid)

7. **Capacity Building**

7.1 **Training received(2008-2009)**

- (aa) Category A in hydrography- India (2) placements.(Officer)
- (bb) Category B in hydrography- India(2) placements.(Officer)
- (cc) Survey Recorder, SR I Course- India(1) placement.(Rating)
- (dd) Survey Recorder, SR II Course- India(1) placement.(Rating)
- (ee) Survey Recorder, SR III Course- India(2) placements.(Rating)

7.2 **Training needed**

- (aa) Cooperation/ training assistance in ENC production capability.
- (bb) Training in Multi Beam Echo sounding operations and concept.
- (cc) Training in GIS and Physical Oceanography.

8. **Oceanographic activities**

8.1 **General :** Oceanographic Division was introduced to the hydrographic office in 1964 and three local research cruises were conducted in cooperation with Universities and related Government Departments, and seven bilateral research cruises were carried out in Andaman Sea and Bay of Bengal. Recently joint shallow water mapping survey (including oceanographic data collection) for ENC chart production has been underway from 2005 to 2011. Oceanographic Survey for Extension of Continental Shelf beyond 200 M has been carried out jointly with India in 2008.

8.2 **Tidal Recording and Prediction :** Tidal prediction based on (11) standard ports for annual tide table production.

8.3 **Tide gauge network:** Nil

8.4 **New equipment:** Nil.

8.5 **Problems encountered:** The office needs assistance in training and updating of oceanographic facilities including reset up to a network of tidal stations in the coastal area for tidal observation and Tsunami Warning System.

9. **Other activities**

9.1 **Aids to navigation activities:** Conducted by Myanmar Port Authority.

9.2 **Meteorological activities:** Meteorological data collection is conducted in cooperation with Department of Meteorology and Hydrology (D.M.H).

10. **Conclusion**

Myanmar has a long coast line of about (2279) km with a large number of estuaries and islands. The EEZ as a physical features is about 470,000 sq km. It shares common boundaries with Bangladesh and India in the Bay of Bengal and with India and Thailand in Andaman Sea. For its sizeable area with vast availability of natural resources it may be necessary to carry out data collection on the coast and at sea for distribution as information in support of maritime navigation safety and marine environment preservation, marine resources exploration and exploitation, and defence. To strengthen the hydrographic service the office is in need of assistance in training and equipment and a medium size survey vessel. Furthermore, it may be stressed that faster transfer of technical knowledge and experience can be attained through joint updating surveys and feasibility studies for ports and harbours development in Myanmar waters with cooperation from IHO and now with NIOHC.