



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

To

12th NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION MEETING

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1. **Hydrographic Office/ Service**

- Inaugurated from 1955, the Hydrographic Unit was formed to carry out hydrographic survey activities in Myanmar waters
- Established as Naval Hydrographic Depot in 1957.
- Leading role in conducting coastal and harbour hydrographic surveys for publishing nautical charts and relevant publications to fulfill for safety of navigation to support both public and military
- Since the commencement 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 and Hydrology (DMH),
- * Directorate of Water Resources and Improvement of River System (DWIR),
- * Myanmar Port Authority (MPA)
- * Land Survey Department.

- At the present moment Myanmar Post Graduate Officers in Hydrography are eagerly endeavoring to whole heartedly and fully cooperating with international associates and colleagues.

2. Surveys

2.1 Hydrographic Survey Activities

MNHC conducted 7 hydrographic surveys in 2011 and 2 hydrographic surveys in beginning of this year. The result of those surveys was produced paper charts and other plan charts for the Maritime usage and other purposes.

Type of survey	2011	2012
Harbour survey	2	1
Coastal survey	4	1
Offshore survey	-	-
Updating Survey	1	-
Total	7	2

2.2 **New Technologies / or Equipment:** Myanmar's Navy has procured and is making use of essential hydrographic equipments such as: Leica DGPS, Bathy 500 MF Survey Echosounder, Hypack Data Acquisition Software, CARIS HIPS/SIPS and CARIS GIS.

2.3 **New Ships :** Nil.

2.4 **Substituted use of different vessels which are fully equipped with all essential hydrographic survey instruments:** Plan to use an offshore vessel together with two patrol gun boat. Out of these three naval vessels to be used for both naval patrol and hydrographic survey simultaneously, one patrol gun boat is already in service for hydrographic survey.

2.5 **Problems encountered:** As Myanmar is quite underdeveloped in high technology, we are urgently in need of most modern and up to date Electronic Navigational Chart production. But we have already arranged to procure these electronic devices in harmony with allotted budget approval from higher authorities.

The most essential help we need at the moment is we wish to be assisted by highly skilled technical experts who could help us to train how to use these electronic equipments and how to make maintenance and repairing works. In this regard, Mr. Chris Throne and Mr. Tim Sewell from UKHO(Singapore) Office visited on 15 Dec 2011 for discussing on ENC production.

As NIOHC work is highly complicated, complex and intricate we earnestly request the leader of NIOHC to cooperated hand in hand with use in order to solve this technical assistance requirement problem. We will render all the required assistance within our full capacity.

3.

New Charts and Updates

Nautical charts are produced annually. The results are shown as bellow:-

3.1 Paper Charts :

3.1.1 (4) New Charts(2011)

- No-56^d, Ngar Kyet Aw to Aung Za Bu Aw, 1: 10000
- No-56^e, Zi Wa Zoe Kyun(Hngat Thaik Kyun) to Aw Gyi Chaung, 1: 25000
- No-56^f, Linn Maw to Ma Pu Tay Kyun, 1: 20000
- No-56^g, Ma Pu Tay Kyun to Lei Kyi Kyun, 1: 20000

(1) New Chart(2012)

- 09a-1 No-3 Naval jetty and approach

Type of production	2011	2012
New chart	4	1
New Publication	1	1
New edition	-	-
New print	-	-
Total	5	2

3.2 ENC's : We have received Hydrographic training in Goa since 2003 to date and found it to be very conducive. To establish ENC, we will try our utmost to complete the target and to obtain the financial resources by the budget issuing authorities. During their visit, Mr. Chris Throne and Mr. Tim Sewell from UKHO(Singapore) Office offered joint ENC production process between UKHO and our office together with on-job-training. With their assistance, two officers from our office attended for introduction to ENC training in Hai Phong, Vietnam from 12 to 23 March 2012.

3.3 RNCs : Nil

3.4 INT Charts: We have submitted four coastal charts for INT production to UKHO in 2011.

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 based on information that has been sent to Hydrographic Office concerning Chart correction, Aid to Navigation, Ship Wrecks and Oil and Gas Exploration Activities. 17 Notices to Mariners were distributed in 2011 and 10 Notice to Mariners have been distributed up to now this year.

5.2 **GMDSS** has been operated in Myanmar since 1998 by Myanmar Five Stars Shipping Line, under the Ministry of Transport.

5.3 **Problems Encountered:** Nil.

6. C-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.

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

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

	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.

(aa) Our office has requested ENC production for Myanmar Waters and related on-the-job training from India, the regional chair of NIOHC, through the Embassy of India in Yangon.

(bb) MR. Chris Throne and Mr. Tin Sewell from UKHO (Singapore) Office visited Myanmar on 15 Dec 2011 to coordinate ENC production.

(cc) Two officers from our office has been admitted to National Institute of Hydrography(NIH) in India- for 2011-2012.

(dd) Four coastal charts have been submitted to UKHO for INT production.

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(2011-2012)**

- (aa) Category A in hydrography- India (1) placement.(Officer)
- (bb) Cartegory B in hydrography- India(1) placement.(Officer)
- (cc) Introduction to ENC Course- Vietnam(2) Placements.(Officer)
- (dd) Survey Recorder, SR III Cource- India(1) placement.(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. 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 sea coast line of about (2279) km with a large number of estuaries and islands. The EEZ as 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 sea coast, in particular on maritime navigation safety and marine environment protection, preservation, marine resources exploration, exploitation, and defense of coastal area. 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.

Thank You!