

## PAKISTAN NAVY HYDROGRAPHIC DEPARTMENT

### HYDROGRAPHIC DEPARTMENT OF PAKISTAN

1. The Hydrographic Department was established in 1949. As a national Hydrographic organisation the department is primary responsible for conducting Hydrographic surveys of coastal and offshore waters of Pakistan and publishing nautical charts and relevant publications to fulfil national / military & international requirements. The department has published a series of charts for the entire coast of Pakistan. The department also renders technical advice to the Government of Pakistan in conducting surveys for exploration and exploitation of natural resources within Exclusive Economic Zone of Pakistan, and is responsible for monitoring all survey / exploration related activities carried out in waters of national jurisdiction. The department is well equipped to undertake surveys as per international standards. PN Hydrographic department comprises of Charting Centre, HQ Navarea IX, Chart Depot, ENC Division, Survey Vessel & Hydrographic School. Pakistan is also shouldering the responsibility of promulgation of Maritime Safety Information in Navarea IX since 1976.

### HYDROGRAPHIC SURVEYS

2. Hydrographic department is responsible for undertaking hydrographic survey activities in Pakistani waters. SV BEHR PAIMA, the hydrographic survey ship has carried out the survey of the entire coast of Pakistan. The department has taken up the survey work in a systematic way in order to meet both, national and international requirements. Continuous efforts have been put to adequately survey the critical areas for navigation within Pakistan waters. The department is also undertaking deep sea surveys: Further information in this regard is as under:

a. Coverage of New Surveys Survey activities for 0 – 200 m depth areas continued to improve the coverage in A1 category area. A1 surveys are near completion and expected to be completed in 2 year time. Survey activities in A2 category areas (> 200m) are progressing at a slower pace due to commitment of survey assets in high priority areas.

b. New Technologies and / or Equipment SV BEHR PAIMA is well equipped to undertake all kind of hydrographic surveys. State of the art equipped like multi-beam echo sounder, deep sea echo sounder and other modern equipment has been added to ships inventory. Recently, ENC division have been established and considerable headway has been made in ENC production.

c. New Ship In view of the ever-increasing marine sciences and survey activities, requirement of another survey vessel has become necessary. Efforts are in hand to acquire multidisciplinary survey vessel.

### NEW CHARTS AND UPDATES

3. Pakistan Hydrographic Office has produced the charts covering the North Arabian Sea of which 6 are designated as INT charts. Further efforts are in hand to print new edition of following charts that will be included in the INT chart series.

- |    |                                |         |
|----|--------------------------------|---------|
| a. | Harbour Chart for Gwadar Port. | PAK 40P |
| b. | Jiwani to Sir Creek.           | PAK 33  |

#### ENC & DISTRIBUTION METHODS

4. Newly established ENC production line equipped with CARIS modules has started working and provisional ENCs have been produced on trial basis. In order to meet the international requirement of ENC coverage around the world the initial ENCs of areas for which Pakistan is the producer nation will be produced & maintained by UKHO, until Pakistan will produce ENCs. Further, to ensure quality production Pakistan has joined IC-ENC, who will not only provide assistance in comprehensive validation but will also, be the distributing agency to the VARs.

#### NEW PUBLICATIONS & UPDATES

5. Following publications are printed by the hydrographic department on annual, half yearly & weekly basis.
- Weekly NTMs.
  - Annual Summary of NTMs
  - Pakistan Tide Table.
  - SUN & Moon rise / set table.

In addition to the printed version of above mentioned documents, up-to-date information on navigational warnings & NTMs is maintained on website for online / swift access.

#### MARITIME SAFETY INFORMATION

6. Pakistan is the coordinator of Navarea IX. Navigational warnings are promulgated through the Xantic satellite services, while the coastal warnings are promulgated through NAVTEX services. All warnings are also maintained on website. Navigational hazards occurring in the region are effectively communicated for further issuance of Nav warnings. The most effective mean has been through e-mail. However, few countries are not maintaining communication through e-mail and use other means such as fax and post, which at times causes considerable delay. New infrastructure with GMDSS has been implemented

#### HYDROGRAPHIC SURVEYING & NAUTICAL CHARTING WORLD WIDE (S-55)

7. Pakistan has submitted online the duly filled Questionnaire regarding S-55 Hydrographic Surveying and Nautical Charting World Wide. Status of hydrographic surveying & nautical charting of all navigable water within the limits of national jurisdiction and the EEZ have been updated. Maritime Safety Information and GMDSS implementation have also been mentioned.

## CAPACITY BUILDING

8. Pakistan Hydrographic Department is able to offer assistance to regional countries in following areas:

- a. Data processing for the production of charts.
- b. Setting up of Hydrographic Office / infrastructure.
- c. Basic Survey Recorder / Technician Course.

However, to further enhance the hydrographic capabilities and building skilled manpower assistance is required in following area:

- a. Cooperation / training assistance in ENC production line procedures and quality management system.
- b. Training in Multi Beam Echo sounding operations and concept.
- c. Advance training / courses in Hydrography, GIS & Oceanography.

## OCEANOGRAPHIC ACTIVITIES

9. Oceanographic activities in Pakistan are carried out in collaboration with National Institute of Oceanography (NIO). During the survey season, oceanographic cruises are arranged in which scientist from both the organisations participate actively for various oceanographic observations and data collection. The processing of data is carried out in the NIO building which is adequately equipped for undertaking such tasks. Both organisations are actively pursuing various projects including the 'extension of continental shelf project'. Assistance offered by following international organisation is highlighted:

- |    |              |   |
|----|--------------|---|
| a. | GEBCO        | Postgraduate diploma in Ocean Bathymetry.   |
| b. | IOC / UNESCO | Offer / provision of a satellite linked telemetric Tide gauge for Karachi & Gwadar. |

## OTHER ACTIVITIES:

Pakistan actively participates in IHO working groups. Captain M. Zafaryab, the Hydrographer of Pakistan Navy is a member of IHO working group on the Manual of Hydrography. He has prepared Chapter No 3. IHO Manual on Hydrography have been published and circulated to the member states.

## METEOROLOGICAL DATA COLLECTION

10. National hydrographic database is maintained at hydrographic department. All the seagoing vessels forward regular weather reports and therefore a comprehensive database for the met information of Arabian sea has developed. In addition a permanent weather station is installed at department to cross check monitor the weather changes.

Conclusions / Executive summary.

11. PN Hydrographic department has published the charts for the entire coast of Pakistan. Six INT charts are also published. Deep sea surveys are also planned. The department is maintaining all requisites IHO standards for the hydrographic surveys. As a coordinator of Navarea IX, navigational warnings are timely promulgated in the area of jurisdiction. ENC set has been established and concentrated efforts are in hand

to produce ENC in near future. The department actively participate in all IHO and regional activities.