



**PAKISTAN
NATIONAL REPORT**

24th MEETING

NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION (NIOHC)
2025

Bangkok, Thailand

11 – 13 February 2025

BY

NATIONAL HYDROGRAPHIC OFFICE PAKISTAN

NATIONAL HYDROGRAPHIC OFFICE PAKISTAN

1. National Hydrographic Office (NHO), previously recognized as Pakistan Navy Hydrographic Department (PNHD) was established in 1949, operates as the primary authority entrusted with conducting hydrographic surveys within Pakistan. Its core mandate revolves around the meticulous production and dissemination of nautical charts, comprehensive publications and Electronic Navigation Charts (ENCs) crucial for safe maritime navigation in Pakistani waters. Pakistan being signatory of Safety of Life at Sea (SOLAS) convention is responsible for survey and charting of all waters under national jurisdiction. On behalf of Govt of Pakistan, National Hydrographic Office (NHO) is conducting hydrographic surveys of waters under national jurisdiction of Pakistan and publishing nautical charts, relevant publications and representing Pakistan at all national and international hydrographic related forums. In addition, NHO is also responsible for survey/ charting as per Pakistan Navy requirement, data collection/ support for various marine related researches and support to Federal Govt. w.r.t. delimitation of maritime boundaries. To meet these functions, a system of well-defined procedures is followed for surveys, data handling and product preparation.

HYDROGRAPHIC SURVEYS

2. Pakistan's coast is over 1000 Km long and by virtue of its unique characteristics, is divided into 02 categories; Makran coast & Indus Delta (creek area). The later lies from east of Karachi till Sir Creek and is mainly comprised of deltaic region due to outfall of Indus River. Whereas, Makran Coast lies west of Karachi till Gwatar Bay bordering with Iran, consisting of sandy shores and sedimentary cliffs. Hydrographic cum oceanographic survey vessels BEHR PAIMA & BEHR MASAH conduct survey of coastal as well as deep waters. Continuous efforts have been made to survey critical areas for safe navigation within Pakistani waters. NHO is presently involved in fresh surveys of areas of interest. Detailed information in this regard is as under:

- a. **Coverage of New Survey.** Survey activities from coast to 200m offshore is being undertaken to improve the coverage in A1 category area and about 99% coverage is complete. Nautical charts of deep sea area that falls under A2 category are relatively old. Work to complete deep sea (> 200m) area using high definition survey equipment and techniques is in progress at a moderate pace due to survey commitments in high priority areas. However, a considerable portion of deep sea area has been surveyed including offshore Indus delta. The same is being utilized to update small scale charts of major shipping routes.
- b. **Problems Encountered.** No problems were encountered w.r.t conduct of hydrographic surveys.

NEW CHARTS AND UPDATES

3. **ENCs.** ENC Division was established in 2005 and since then it is progressing ENC production. Detail of the same is given below:

- a. ENC's of all major ports and approaches i.e. Karachi, Port Muhammad Bin Qasim and Gwadar Deep Water Port are available to mariners. ENC's including local series are completed. Publishing of new editions of two charts alongwith their corresponding Electronic Navigational Charts (ENCs) are in the process.
- b. Small scale ENC cells of INT-751 (Bombay to Masqat) and INT 7019 (Karachi to Ras Al-Hadd), covering shipping route through Arabian Sea, have been produced.
- c. **ENC Distribution Method.** Pakistan being member of IC-ENC is utilizing its services for data validation and distribution of ENC's. Necessary quality checks of ENC's are conducted prior forwarding to IC-ENC for validation through different software's which improves the quality of products.
- d. **RNCs.** NHO is neither producing nor has plans to produce RNCs.
- e. **INT / National Paper Charts.** NHO have published 41 charts of different scales covering entire coast and off shore waters of Pakistan. These are kept up to date. Out of these, 8 charts presently form part of INT area "I & J" of S-11.
- f. **Other Charts.** NHO is not producing any other type of charts.
- g. **Problems Encountered.** No problems were encountered w.r.t production of Charts/ ENC's.

NEW PUBLICATIONS & UPDATES

4. **New / Updated Publications.** Following publications are produced by National Hydrographic Office on weekly and annual basis:
 - a. Weekly Notices to Mariners (NTMs).
 - b. Annual Summary of NTMs.
 - c. Annual Pakistan Tide Table.
 - d. Annual Sun & Moon Rise / Set Table.

MARITIME SAFETY INFORMATION

5. Pakistan being NAVAREA-IX Coordinator is responsible for transmission of MSIs. Under GMDSS, following two types of MSI are issued:
 - a. NAVAREA IX warnings through International Safety Net.
 - b. Coastal warnings.

c. **NAVAREA IX Warnings.** NAVAREA IX broadcast is passed daily at 0300 and 1500 UTC through INMARSAT and IRIDIUM Satellites whereas, unscheduled broadcast for urgent navigational warnings is made as and when required. All NAVAREA IX warnings are also made available on website (www.pak.gov.pk/hydro). Numerical list of all enforced NAVAREA IX warnings is broadcasted each Saturday. Reprint of all NAVAREA IX warnings, issued during a week, is also included in the weekly edition of Pakistan Notices to Mariners.

d. **Coastal Warnings.** Coastal warnings are broadcasted as and when required. Weather messages are transmitted at 0800 and 1800 UTC daily. All navigational warnings are transmitted through INMARSAT and IRIDIUM.

e. **Monitoring of MSI Broadcast.** In order to ensure integrity of MSIs being received by mariners, Coordinator NAVAREA IX monitors its broadcast through INMARSAT C terminal.

f. **Delayed Reception of Navigational Information.** Navigational hazards are communicated by relevant state through fax, email and telephone, for further issuance of Navigational warnings by NAVAREA-IX HQ. The most effective mean has been through email. However, at times such communication is made through fax and post, which causes delays.

C-55

6. Status of C-55 is as under:

Depth	A	B	C
<200m	99	01	0
>200m	68	32	0

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.

CAPACITY BUILDING

7. In order to maintain quality of hydrographic products as per recognized international standards, National Hydrographic Office attaches special emphasis on capacity building aspect of officers and men. National School of Hydrography is conducting Cat B Hydrographic Surveying course for both PN and International students since 2009. Presently, 03 x Pakistani Officers completed course in 2024. Accordingly, officers undergo Cat B course from Australia/USA and Cat A from UK as they progress in the hydrographic service. Officers are also trained in traditional and electronic cartography from renowned international institutes. Sufficient training

facilities are available to train the survey recorders within country also, 02 x officers of completed Basic Hydrographic Surveying Course from Australia. Furthermore, National Hydrographic Office offers assistance to regional countries in following areas:

- a. Hydrographic surveys.
- b. Basic Survey Recorder / Technician Course (6 months).
- c. Assistance in ENC production line procedures and quality management system.
- d. Handling of MSIs.
- e. Cat B Hydrographic Course.

OCEANOGRAPHIC ACTIVITIES

8. General Oceanographic activities in Pakistan are carried-out by NHO in collaboration with Pakistan National Institute of Oceanography (NIO). Oceanographic cruises are arranged in which scientists from both the organizations participate actively for various oceanographic observations and data collection. The processing of data is carried out at NIO, which is adequately equipped for undertaking such tasks. National Hydrographic Office provides services of survey vessels to NIO on request basis for oceanographic cruises.

- a. Tide Gauge Network include four in number automated tide gauges i.e. at Karachi, Ormara, Gwadar and Keti Bandar have been installed with the assistance of IOC. The tidal data besides supporting Tsunami warning analysis is also being used for sea level measurements and tidal analysis for subsequent tide predictions.
- b. The new survey vessel PNS BEHR MASAH is equipped with Wave meter, ADCP and Rosette Water Sampler. Induction of these equipments has significantly enhanced the oceanographic capability of NHO Pakistan.

OTHER ACTIVITIES

9. NHO actively participates in various hydrographic and oceanographic related activities. Salient activities held during period under review are as under:

- a. 01 x officer participated in S-57 to S-101 Conversion training in 29 April-02 May 24 in Masqat, Oman.
- b. Attended virtually annual meetings WWNWS-16 from 02 – 06 September 2024 in Valparaiso, Chile.
- c. MSI training course sponsored by IHO was attended by 01 x officer in October 2024 in Bahrain. The training was aimed to provide practical guidance to personnel concerned with the drafting of radio navigational warnings/ issuance of MSI.

d. Attended 10th ROPME Sea Area Hydrographic Commission meeting at Jeddah, Saudi Arabia from 26 – 28 November 2024.

CONCLUSION

10. National Hydrographic Office is carrying out surveys of waters under national jurisdiction as per IHO standards. In addition, NHO is actively participating in all national, regional and international maritime activities / forums. NHO has completed the surveys of entire coast of Pakistan and has published relevant charts. At present, resurveys of critical areas and new surveys including deep sea surveys are being undertaken. As a coordinator of NAVAREA IX, responsibility for promulgation of navigational warnings is being effectively fulfilled. In addition, ENC cells concerning major ports and small scale ENCs adequately covering shipping route of Arabian Sea have been made available to commercial shipping.

INPUT TO IHO PUBLICATION P-5 (YEAR BOOK)

Following changes have been incorporated in IHO Publication P – 5 (Year book):

National Hydrographer or equivalent	Hydrographer of Pakistan Vice Admiral Muhammad Faisal Abbasi HI(M) Postal address: Naval Headquarters, 11 Liaquat Barracks, KARACHI, 75530, Pakistan Tel: +92 21 485 06151 Fax: +92 21 9920 1623 E-mail: hydrogk@paknavy.gov.pk
Other point(s) of contact	Nil
Total number of paper charts Published	41 (Large and small scale) charts

INPUT TO IHO PUBLICATION C-55

Updated status of C-55 is as under:

Depth	A	B	C
<200m	99	01	0
>200m	68	32	0

A= Percentage which is adequately surveyed.

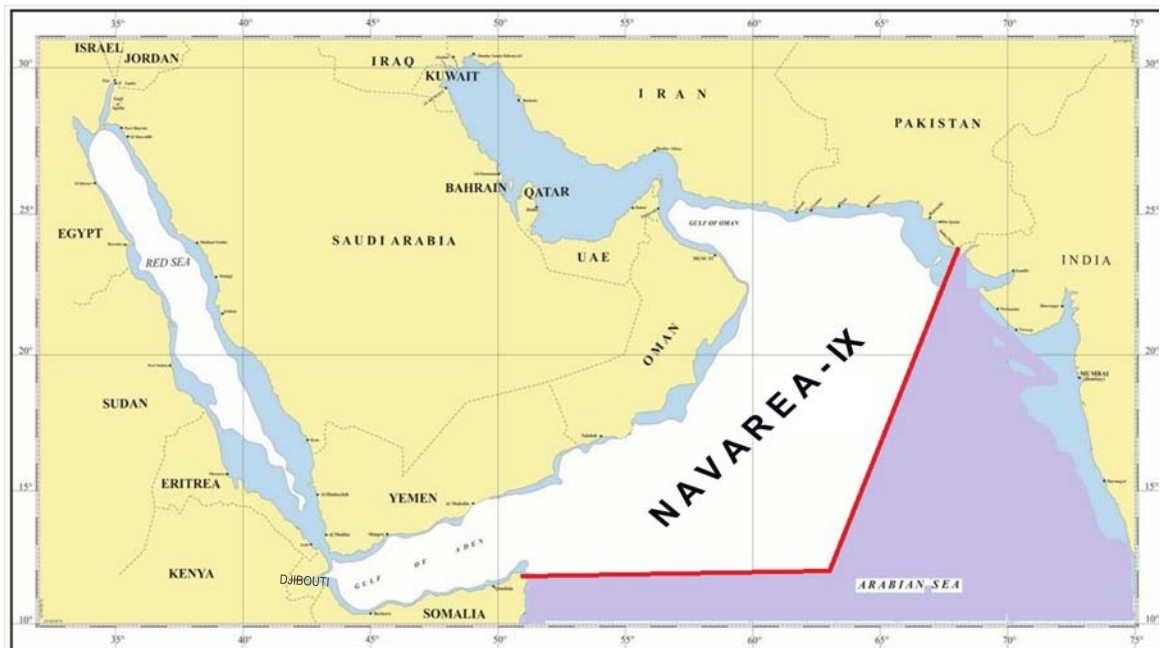
B= Percentage which requires re-survey at larger scale or to modern standards.

C= Percentage which has never been systematically surveyed.

MSI ASSESSMENT FOR NAVAREA-IX**REPORTING PERIOD FROM 1ST JANUARY 2024 TO 31 DECEMBER 2024****Submitted By: National Hydrographic Office Pakistan****1. General Information:**

1.1. **Organization`** On behalf of Government of Pakistan, Hydrographer of Pakistan (HoP) performs the responsibilities of NAVAREA IX Coordinator. The National Hydrographic Office (NHO) Pakistan, at Karachi is the focal point for the services related to Navigational safety. NHO is responsible for the transmission of Maritime Safety Information (MSI) to 16 countries of NAVAREA-IX. Limits of NAVAREA IX area are as under:

- | | | | | | |
|----|-----------|------------|----|-----------|------------|
| a. | 23° 48'N. | 068° 05' E | c. | 12° 00'N. | 050° 45' E |
| b. | 12° 00'N. | 063° 00' E | d. | 30° 00'N. | 032° 00' E |



1.2. Operational Points of Contacts (POCs) for National Coordinators within the NAVAREA-IX limits are as follows:

Country	Institution	Telephone	Facsimile	Email
Bahrain	MENAS Maritime Operation Centre Bahrain	+973 17810011	+97317725591	m.khurshid@menas.com.bh Rashid.alsuwaidi@slrb.gov.bh
Djibouti	Ministry of Transport and Telecommunication	+253 353475 +253 353208	+253351538	-
Egypt	Egyptian Authority for Maritime Safety (EAFMS)	+20 34801006	+ 2034802233	e.n.h.d@hotmail.com hydro@enhd.gov.eg
Eritrea	Department of Maritime Transport	+291 1 552346, +291 1 552931	+2911 552157	motcrez@eol.com.er
Iraq	Ministry of Transport and communication	-	-	-
Iran	Port and Maritime Organization, Maritime Affairs Department	+9821 84932171 +9821 84932143 +9821 84932152	+9821 84932190	parizi@pmo.ir pasandeh@pmo.ir
Jordan	Jordan Maritime Authority	+962 3201 4031	+962 32016320	info@aqabaports.gov.jo
Kuwait	Ministry of Communication Marine Department Hydrographic Survey Division	+965 6691 6969	+965 24990333	mazidi@moc.kw.or Kholoud@moc.gov.kw
Oman	Sultanate of Oman, Ministry of Defence, Oman National Hydrographic Office, Royal Navy of Oman	+968 24312350 +968 24322831	+968 24312460	ONHO@mod.gov.om hydromo@mo.gov.om
Pakistan	National Hydrographic Office Pakistan	+9221485 06151 +9221485 06204 +9221485 06821	+ 92 21 99201623 + 92 21 99203246	hydropk@paknavy.gov.pk hydrpk@gmail.com
Qatar	Customs & Ports General Authority, Department of	+974 4426 2100	+974 94265454	vjankovic@mme.gov.qa SKandy@mme.gov.qa

	Maritime Affairs & Transport			
Saudi Arabia	Saudi Port Authority	+966 920 000 427 ext 1700	+966 114647589	hydro@gasgi.gov.sa
Somalia	-	-	-	-
Sudan	Sudanese Maritime Administration	+249 918 377 1659	+249 918 379 0189	Profesadig54@rocketmail.com
U.A.E	Federal Transport Authority Land & Maritime	+9712651900 +971 2641 3321	+971 2 651691 97126415566	msd2000@emirates.net.ae admin@uaesurbey.ae
Yemen	Ministry of Transport Maritime Affairs Authority	+9672203521	+967 2 205805	ypa@y.net.ye

1.3. **GMDSS Master Plan.** MSIs related to navigational warnings are issued by NAVAREA-IX coordinator, weather warnings are transmitted by Pakistan Metrological Department (PMD) whereas Maritime Rescue and Coordination Center (MRCC) at Pakistan Maritime Security Agency (PMSA) is looking after all search and rescue related issues.

2. **NAVAREA EGC**

NAVAREA-IX office houses an indigenously developed system to display, monitor and store MSIs. One node of this system is designed to access Land Earth Stations (LES) for MSI transmission purpose.

2.1. **Details of EGC Services.** NAVAREA-IX office transmitted all MSIs through mobile satellite broadcast (INMARSAT & IRIDIUM) at 0300 and 1500 UTC daily during the period under review. Urgent messages are broadcast immediately.

Broadcast Equipment/ Software	Broad cast schedule/Satellite	Manufacturer/ Location (LES)/ Implementation
INMARSAT Safety NET	0300 and 1500, IOR	Burum
Iridium Safety Cast	0300 and 1500	Iridium
Monitoring Equipment/ Software		Manufacturer/ Software
Safety NET		Inmarsat C
Iridium Safety Cast		Iridium

2.2. **NAVTEX.** NAVTEX stations coverage area are shown at Annex 'A' and contact details of NAVTEX stations are as under:

B ₁ 518 kHz	B ₁ 490 kHz	NAVTEX Station	Email	Telephone	Status
B	-	Hamala (Bahrain)	info@menas.com.bh	+973 17828541	Ops
V	-	Al Qusayr (Egypt)	hydro@enhd.gov.eg	+20 65 330001	Ops
F	I	Bandar-e-Shahid Rajai (Iran)	abbasradio@pmo.ir	+98 761 4514032	Ops
A	D	Bushehr (Iran)	bushenradio@pmo.Ir	+98 771 2530074	Ops
M	-	Muscat (Oman)	ONHO@mod.gov.om	+968 24571400	Off air
P	-	Karachi (Pakistan)	hydrpk@gmail.com	+92 21 45901161	Off air
-	W	Umm Qasr (Iraq)	aqilsarah@yahoo.com	+964 7801440543	Ops
H	O	Jeddah (Saudi Arabia)	navtex@gamep.gov.sa	+966 124 237376	Ops

2.3. **Other Methods of Promulgation.** For local authorities, fisherman etc., local means of communications are used (VHF, courier, fax etc) to update them with ongoing activities.

3. **NAVAREA Matrixes.**

3.1. NAVTEX information received for 2024 are as under:

2024							
Country	NAVTEX station name	B1 Character or Coastal Warning Area	Broadcast schedule times UTC (only for EGC)	Total number of warning broadcasts	Number of warnings broadcast with urgent priority (EGC) or vital (NAVTEX)	Total number of warnings broadcast, including repetitions	Broadcast data in megabytes
Bahrain	Hamala	B	0010 0410 0810 1210 1610 2010	308	-	-	-

3.2. **NAVAREA Warnings Broadcasts.**

Provider	2022			2023			2024		
	Total number of warnings issued	Total number of warnings broadcast including repetitions	Broadcast data in megabytes	Total number of warnings broadcast	Total number of warnings broadcast including repetitions	Broadcast data in megabytes	Total number of warnings issued	Total number of warnings broadcast including repetitions	Broadcast data in megabytes
Safety Net	526	606	0.29	479	530	0.25	533	5.74	0.24
Safety Cast	526	-	-	479	-	-	533		

3.3. **Urgent EGC Warnings** Nil

3.4. **VITAL Coastal Warnings** Nil

3.5. **In-force warnings**

3.5.1. **In-force bulletins issued** Yes, enforced bulletins are uploaded on website on every Saturday. Bulletins remain available on website till cancellation. All warnings issued each week are published in weekly edition of Pakistan Notices to Mariners (PNTM) bulletin Section II and weekly edition is also available on NHO website.

3.5.2. **Requests for In-force warnings.** The following table shows the number of requests to NAVAREA IX for a list of enforced navigational warnings of last 03 years:

Year	2022	2023	2024
Total	256	262	215

4. **Operational Issues.** Nil

5. **National Coordinator Communication.**

5.1. **IRCC Strategic Performance Indicator** NAVAREA IX did not receive any information in 2024 from the following Coastal States:

<u>Coastal State / Country</u>	<u>Information Received</u>

Somalia	None
Djibouti	None
Eritrea	None
Sudan	None
Jordan	None

5.2. Details of information received from various Coastal States are as under:

Coastal State/ Country	E-mails	Fax	Letters
Pakistan	34		56
Bahrain (MENAS) (Qatar, UAE, Kuwait, and Iraq)	308		
Dubai	03		
Saudi Arabia	52		
Oman	18		
Egypt	01		
Iran	32		02
Miscellaneous (Information's received from various sources)	18		

5.3. **Procedures** NAVAREA-IX coordinator communicates with all National Coordinators of NAVAREA-IX as well as other sources (UKMTO merchant ships etc) to promulgate warnings through email/fax/telephone.

6. **Contingency Planning**

An internal contingency plan is held. As an external contingency plan, collaboration with NAVAREA VII (South Africa) is agreed.

7. **Capacity Building**

In the context of enhancing Maritime Safety Information (MSI) capabilities, it is imperative to underscore the significance of capacity building initiatives. Participation in the recent MSI course held in Bahrain exemplifies a commendable effort in this regard. Such training programs, under the auspices of International Hydrographic Organization (IHO), play a crucial role in fortifying the MSI framework. They are particularly beneficial for developing countries, providing them with the

requisite skills and knowledge to improve their maritime safety system. It is recommended that these capacity-building courses continue to be conducted under IHO's guidance, as they contribute substantially to the advancement and efficiency of MSI practices globally.

8. **Other Activities.** NIL

9. **NAVAREA Website.**

Navigation warnings are uploaded on NHO Pakistan website 'hydrography.paknavy.gov.pk' on daily basis.

10. **NAVAREA Contact Information**

VICE ADMIRAL MUHAMMAD FAISAL ABBASI HI (M)

Hydrographer of Pakistan (HoP)

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hydrpk@gmail.com

Tel: +92 21 48506151-2, +92 21 48506151

+92 21 48506202, +92 3214672970

Fax: +92 21-99201623

Address: HQ NAVAREA IX
National Hydrographic Office
Naval Headquarters
11, Liaquat Barracks
Karachi – 75530
PAKISTAN

11. **Recommendations**

Following is recommended:

- a. Scenario based joint exercises and drill under the ambit of WWNWS should be conducted to test and improve regional response to maritime emergencies.
- b. Courses on Maritime Safety Information MSI courses for NAVAREA IX countries should be contributed by IHO to facilitate active and effective participation by member states. Furthermore, a mechanism should be developed to encourage the involvement of currently inactive member.

12. **Actions requested.**

The Commission is requested to note this report.

13. **Summary.**

Coordinator NAVAREA-IX transmits MSIs for all 16 countries in the region. Navigational Warnings are promulgated via INMARSAT and IRIDIUM satellites with all warnings being included in the weekly NTMs. All in-forced warnings and NTMs are regularly posted and monitored on NAVAREA IX website as well. NAVAREA IX accesses both service providers via internet and all broadcasts of both systems are monitored. Coastal warnings are being transmitted via Safety Net/ Safety Cast. The reception of all the NAVAREA warnings promulgated through Safety Net/ Safety Cast and coastal warnings are monitored at NHO through respective terminals at communication center.