



NATIONAL REPORT
NATIONAL HYDROGRAPHIC OFFICE
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INDIA

NATIONAL REPORT TO REGIONAL HYDROGRAPHIC COMMISSION
REPUBLIC OF INDIA- FEB 2014

1. **Hydrographic Office / Service**

1.1 The Indian Naval Hydrographic Department (INHD), with the National Hydrographic Office located at Dehradun, is the sole national authority for publication of nautical charts and publications for navigation at sea. As part of its international responsibilities, the department provides coverage for Marine Safety Information(MSI) in the region NAVAREA VIII comprising of Indian Ocean, Arabian Sea and Bay of Bengal. With a fleet of eight modern ocean-going survey ships and one twin hulled catamaran survey vessel; fully equipped with latest hydrographic and oceanographic sensors and six more ships including a training vessel on the anvil, it is one of the most prominent hydrographic organisations in the world.

1.2 The National Institute of Hydrography (NIH), Goa, an integral part of the INHD, has the national responsibility for conduct of hydrographic training within India and functions under the overall professional supervision of the Chief Hydrographer to the Govt of India. The Institute conducts courses for hydrographic officers, technicians, civilians as well as personnel from the Indian Ocean littoral states. The Long 'H' and Basic 'H' courses conducted by the Institute are recognised by the International Hydrographic Organisation. The courses conducted alongwith duration is as follows:-

<u>Sl No</u>	<u>Course</u>	<u>Duration</u>
(a)	<u>Long H Course</u> :- A Cat 'A' course recognised by IHO and on completion students are awarded a MSc degree from Goa University.	34 Weeks
(b)	<u>Basic H Course</u> :- A Cat 'B' course recognised by IHO	19 Weeks
(c)	<u>PO 'Q' SR</u> :- An advanced level sailor course. On successful completion of PO 'Q' Course a Diploma in Hydrography is awarded in affiliation to Cochin University of Science and Technology.	19 Weeks
(d)	<u>Basic 'Q'</u> :- An entry level sailor qualifying course.	25 Weeks
(e)	<u>LS SR 'Q' Refresher</u> :- A mid level sailor refresher course.	10 Weeks

2. **Surveys**

2.1 **Coverage of New Surveys.** Indian Naval Hydrographic Department (INHD) has undertaken Hydrographic Surveys both at National and International levels. In the national front various hydrographic surveys are being undertaken towards the updation of existing charts of the Indian coast and Island territories. The exclusive economic zone surveys of Bay

of Bengal and Arabian Sea is under progress during the current survey season. An average of 60 navigation and military surveys are conducted in India and abroad annually.

2.2 **New Technologies and/ or Equipment.** The Indian Naval Hydrographic Department (INHD) is at the forefront in the induction and utilization of modern and high end surveying equipment/ technologies. One ROV and two AUVs have been commissioned successfully onboard INS Makar. Future Catamaran survey vessels will be equipped similarly.



2.3 **Processing System/ Software.** The department has acquired full digital capability. Digital hydrographic data collected by ships undergoes QA/QC checks at NHO before being inserted into the hydrographic database for production of paper charts and ENC's. Over the last two years the CARIS HPD has produced about 100 paper charts and 100 equivalent ENC's.

2.4 **New Ships.** The department has a fleet of eight oceans going helo carrying survey ships and one twin hulled Catamaran survey vessel. Five more Catamaran Hull survey vessels are likely to be inducted in the near future. In addition, one survey training vessel and four New Survey Vessels are being planned for induction in this decade.

2.5 **Problems encountered.** Nil

3. **New Charts & Updates**

3.1 **ENCs.** After the successful customisation and in house training on HPD, it is planned to populate the database in all usage bands and produce products with appropriate CATZOC. This is in line with the WEND principles. Currently the thrust area is to populate the database in the usage bands 6, 5 and 4. So far 65 ENCs and equivalent paper charts have been published in the HPD with another 40 under various stages of production. As on 31 Jan

2014 India has produced 271 ENC Cells which includes 14 ENCs of other countries. Of all these ENCs released, the break up as per usage band index is tabulated below:-



<u>CATEGORY</u>	<u>USAGE BAND</u>	<u>No OF ENCs</u>
Overview	1	6
General	2	25
Coastal	3	39
Approach	4	48
Harbour	5	107
Berthing	6	46
Total		271

3.2 **Foreign Water Charts and ENCs.** INHO so far published 14 ENCs and 16 paper charts. More charts of Mauritius, Kenya, Tanzania and Mozambique will be added and will be based on latest IN surveys.

3.3 **INT Charts.** India, as the coordinator of International charting group for the North Indian Ocean (Area J), has responsibility to produce 80 INT charts. Out of 80 INT charts, India has produced **57 INT charts** and remaining are planned to be produced in the near future in the HPD with associated ENCs.

3.4 Summary of charts/ publications printed during 2013 are as follows: -

<u>Sl</u>	<u>Description</u>	<u>Nos.</u>
(a)	New Charts	33
(b)	New Editions	04
(c)	Reprints	105
(d)	Publications	02

3.5 **PAPER CHART DISTRIBUTION.** The paper charts and associated publications are made available through chart agents. The latest list of chart agents is available on NHO

website. UKHO is also publishing Indian charts for distribution through their agents based on bilateral agreement. These paper charts are updated by fortnightly Notice to Mariners, which are available on our website www.hydrobharat.nic.in

3.6 **ENC Distribution** Indian ENCs are distributed worldwide by VARS like UKHO, M/s Jeppesen Marine and M/s PRIMAR RENC (Norwegian Hydrographic Service). We also provide ENCs in S-63 format to the Indian Navy and other national agencies.

3.7 **Problems encountered.** Nil

4. **Marine Safety Information**

4.1 **Existing Infrastructure for Transmission.** - The Chief Hydrographer to the Government of India is the co-ordinator for NAVAREA-VIII. The Naval Chart Depot at Mumbai coordinates the broadcasting of all Navigational Warnings. Reports/ Information are directly sent to Naval Chart Depot by various authorities with a copy to National Hydrographic Office, Dehradun. National Hydrographic Office closely monitors all broadcasts. Apart from this, information received directly in this office is also communicated to Naval Chart Depot for transmission.

4.2. **Existing NAVTEX Stations.**

- (a) Chennai - Under repair
- (b) Mumbai - Under repair
- (c) Mauritius - Operational

4.3. Furthermore, all the updated warnings including the Notices to Mariners are available on the INHO website www.hydrobharat.nic.in.

4.4. **New Infrastructure in accordance with GMDSS Master Plan.** Seven new NAVTEX stations are being established and are likely to be operational by July 2014 in the following locations:-

- (a) Veraval (Gujarat)
- (b) Vengrula (Maharashtra)
- (c) Muttam Point (Tamil Nadu)
- (d) Porto Novo (Tamil Nadu)
- (e) Vakalpudi (Andhra Pradesh)

- (f) Balasore (Orissa)
- (g) Keating Point (Andaman and Nicobar Islands)

4.5 **Problems Encountered.** Nil.

5. **C-55 (Updated Table).** The updated C-55 table is placed at Annexure to the National Report.

6. **Capacity Building**

6.1 India has been proactively engaging in incremental improvements in hydrographic training and hydrographic foreign cooperation. The initiatives include joint hydrographic surveys with onboard hydrographic training, training at NIH and offering specialized courses for Multibeam training and ENC production. INHD has carried out hydrographic surveys in Maldives, Srilanka and Seychelles over the last few years. Avenues of cooperation are also being explored with other members of NIOHC. Hydrographic cooperation with the following countries has been progressed in the recent past :-

(a) **Indo-Kenya.** On the request received from the Govt of Kenya the survey of Manda Bay and Kiwaiyu Bay was undertaken by IN Ship Jamuna in Nov – Dec 13.



(b) **Indo – Tanzania.** The survey of Dar-es-Salam and Approaches to Da-es-Salam was undertaken by INS Jamuna in Jan 14.



(c) **Mauritius.** In the last eight years, post signing of the MoU on hydrography, INHD has completed Twenty One hydrographic surveys and eight navigational charts have been published namely; Agalega Island (Chart 2084), Approaches to Port Louis, Port Louis (Chart 2086), Approaches to Cargados Carajos Shoals (Chart 2503), Mathurin Harbour (Chart 2504), Approaches to Mathurin Harbour (Chart 2505), Grand Bay, Grande Rivier Noire Bay (Chart 2506) and Grand Port - Southern Entrance (2507) and Port Louis Harbour Nav Channel (Chart 2086). A survey unit has been established in Mauritius in 31 Oct 13 for undertaking local hydrographic survey India and to assist in setting up Hydrographic Infrastructure in Mauritius. India has also gifted a survey launch to Mauritius in Feb 2013.



(d) **Antarctica Survey Programme.** India is a member of the HCA. A delegation from INHD participated in the 32nd Indian Antarctica expedition from Jan 13 to Apr 2013. One more team has been deputed for the 33rd Indian Antarctic expedition and are expected to return by early April 2014. India is committed to fulfilling the survey and charting requirements in Antarctica and all attempts are being made by the department to collect data during the summer expeditions.



6.2. **Training.** The Long Hydrographic Cat 'A' Course and Basic "H" Cat 'B' course programmes conducted at National Institute of Hydrography(NIH) were re-certified by IHO constituted IBSC, for a further period of six years in April 2013. Since NIH inception, a total of 537 foreign nationals were trained at National Institute of Hydrography (NIH), Goa. Trainees from Fiji, Indonesia, Maldives, Mozambique, Myanmar, Phillipines, Srilanka and Vietnam attended various courses conducted at the NIH in past one year. The number of foreign personnel trained in the year 2013-14 are as follows:-

<u>SI No</u>	<u>Course</u>	<u>No of Foreign Trainees</u>	<u>Countries</u>
(a)	Long 'H'	09	Indonesia –1, Fiji – 1, Myanmar – 2, Nigeria –2, Vietnam –1 & Sri Lanka – 1
(b)	Basic 'H'	08	Myanmar – 1, Sri Lanka – 1, Nigeria – 1, Vietnam – 2, Kenya – 1, Fiji – 1 & Philippines – 1
(c)	PO 'Q' SR	03	South Africa – 1, Sri Lanka – 1 & Fiji – 1
(d)	Basic 'Q'	03	Sri Lanka – 2 & Fiji – 1
	Total	23	



7. **Oceanographic Activities.** The Indian Naval Survey Ships regularly carry out oceanographic surveys. The data is collected while undertaking hydrographic surveys. Apart from this the department provides assistance to various governmental organizations for collection of the oceanographic data.

MISCELLANEOUS

8. **World Hydrographic Day Celebrations.** The World Hydrographic Day was celebrated in India at NHO Dehradun, National Institute of Hydrography (NIH), Goa and onboard ships at Vishakapatnam, Kochi and Karwar. Keeping in view the theme “Hydrography – Underpinning the Blue Economy” workshops, lectures, demonstrations and visits by undergraduate and senior school students were organised at these locations.

8.1 **Survey Ships at Vishakapatnam** celebrated the World Hydrography Day by organizing visit of college students to ships and presentation on Hydrography related aspects for ship's company. The students exhibited keen interest in the field of hydrography and were made to understand the spinoffs of hydrography in terms of economy. The visit of students being architects of tomorrow is considered an essential part of this awareness mission. During visit students were briefed about Hydrography and its importance in global economy. The students were also exposed to various survey equipment's, fair sheets and DTMs of recent surveys. A presentation on hydrography and challenges faced during survey operations on day to day basis were also delivered to ship's company onboard INS Nirupak. An open forum was also conducted to get acquainted with hydrography.



8.2 A visit for CUSAT faculty and students was organised onboard IN surveying ships **Survey Ships at Kochi**. The students were apprised of the specialised and benign role of IN surveying ships.



A workshop giving insight on capabilities, tasking and achievement of Indian Hydrographic Department was conducted for staff and trainees of various schools from Kochi.



8.3 **World Hydrographic Day at Karwar** was celebrated with the following activities.

(a) **Seminar on World Hydrographic Day.** A seminar was conducted onboard ships for the invitees. They were given a brief on the Hydrography and its importance. An insight was given on the History and evolution of Hydrography. The invitees were made to understand the basic organisation and functioning of the Indian Naval Hydrographic Department. Further they were also informed about the Emerging Technologies in the field of Hydrography and the Way ahead.

(b) **Display of Hydrographic Equipment.** The invitees were taken for a walk

around after the completion of the seminar. The state of art survey equipment fitted onboard was displayed. They were made to understand the basic operations and role of each equipment.

(c) **Display of Fair Tracing.** On completion of the walk around the sailors visited the Survey Chart Room. The Fair tracing of recently conducted survey was displayed for better understanding on the subject.

8.4 **National Institute of Hydrography** The World Hydrography Day was observed for the cause of spreading awareness amongst the faculty and trainees of the institute. Representatives from civil organizations (Mormugao Port Trust, National Institute of Oceanography, Captain of Ports and NIO) and Naval units/ ships under HQGNA were invited to attend the proceedings. Presentations were delivered by the staff and trainees stressing upon the "Hydrography - Underpinning the Blue Economy with special emphasis on maritime trade, marine commerce and national development.



Annexure 1(refers to Para 5 of National Report)

**IHO SPECIAL PUBLICATION C-55
“STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLD-WIDE”
QUESTIONNAIRE**

Country : **India**

Date of validity of Information : **Feb 2014**

Are any amendments required to your entry in the IHO Year Book? If so, enter below.

Update is particularly important on your outsourcing strategy and on your ability to provide contract survey or charting support to other states in your RHC area.

INDIA (REPUBLIC OF)

NATIONAL HYDROGRAPHIC OFFICE Post Box No. 75 107 - A Rajpur Road DEHRA DUN – 248 001 (UTTARAKHAND)	
Department of which the Hydrographic Office is part – <i>Ministère don't dépend le Service Hydrographique – Ministerio del que depende el Servicio Hidrográfico</i>	Indian Navy, Ministry of Defence.
Principal functions of the H.O. – Attributions principales du S.H. – Principales funciones del S.H.	Hydrographic surveys, Project surveys, Nautical charts, Electronic Navigational Charts (ENC), Notices to Mariners (Fortnightly), Radio Navigational Warnings, List of Lights, Sailing directions, Nautical Almanac, Tides, Tidal streams and currents, Oceanographic data analysis and publications, Marine and earth sciences, Coastal Zone Regulation Plan Charts, UNCLOS Charts, Fisheries Charts, Procurement & Maintenance of Hydrographic Oceanographic and Cartographic equipment for the department, Consultancy, Hydrographic & Cartographic Training for International Hydrographic Cooperation.
National day day – Fête nationale - Fiesta nacional	Independence Day 15 August Republic Day 26 January
Telephone :	+ 91 (135) 2747 365
Fax :	+ 91 (135) 2748 373
E-mail :	Inho-navy@nic.in
WEB site:	http://www.hydrobharat.nic.in
Date of establishment and Relevant National	1776

Legislation – <i>Date de fondation et législation nationale concernée</i>– <i>Fecha de establecimiento y Leyes nacionales de referencia</i>	Govt. of India. Rules of Business; The Territorial Waters. Continental Shelf. EEZ & Maritime Zones Act 1976.
Name and rank of the Director or Head– <i>Nom et grade du directeur – Apellidos y graduación del Director</i>	Vice Admiral SK Jha, AVSM, NM Chief Hydrographer to the Government of India
Tonnage– Tonelaje	2011 = 11113181 tons
Total Budget–<i>Budget total – Presupuesto Total</i>	Rs. 1000 millions approx (Annual Revenue Budget) including survey ship operations
Staff employed - <i>Effectifs -Plantilla</i>	<p>Rear Admiral KM Nair, NM Joint Chief Hydrographer</p> <p>Commodore Vinay Badhwar, NM Principal Director</p> <p>Commodore Adhir Arora, NM Principal Director</p> <p>Commodore Ravi Nautiyal Additional Principal Director</p> <p>Captain Peush Pawsey Director of Hydrography (Operations)</p> <p>Captain Sajeev K Nair Director of Hydrography (Personnel & Training)</p> <p>Captain HA Hardas Director of Hydrography (Chart Branch)</p> <p>Captain J Gurumani Director of Hydrography</p> <p>Commander Ashish Arya Joint Director of Hydrography (International Affairs)</p> <p>Commander Deepak Sharma Joint Director of Hydrography (Chart Sales & Distribution)</p> <p>Commander A Muralidhar Joint Director of Hydrography (Maritime Boundary)</p>

	<p>Commander A Banerjee Joint Director of Hydrography Staff Officer to Chief Hydrographer</p> <p>Commander BK Prasanna Joint Director of Hydrography (Materials)</p> <p>Commander YV Ramakrishna Joint Director of Hydrography (Hydrographic Data Mangement)</p> <p>Commander SK Sajan Joint Director of Hydrography (Maritime Safety Services)</p> <p>Mr. SS Chauhan Deputy Chief Civil Hydrographic Officer</p> <p>Mr. Rajesh Kumar Deputy Chief Civil Hydrographic Officer</p> <p>Dr. RB Singh Assistant Chief Civil Hydrographic Officer</p> <p>Dr. RA Prasad Assistant Chief Civil Hydrographic Officer</p>
<p>N° of charts published -<i>Nombres de cartes publiées - N° de cartas publicadas.</i></p>	<p>359</p>

<p>N° of INT charts published -<i>Nombres de cartes INT publiées - N° de cartas INT publicadas.</i></p>	<table> <tr> <td>(a) Small scale</td> <td>02</td> </tr> <tr> <td>(b) Medium & Large Scale</td> <td>55</td> </tr> </table>	(a) Small scale	02	(b) Medium & Large Scale	55
(a) Small scale	02				
(b) Medium & Large Scale	55				
<p>N° of ENC cells published -<i>Nombres de cellules ENC publiées - N° de células ENC publicadas.</i></p>	<p>271</p>				

<p>Type of publications produced (e.g; Tide Tables, Sailing Directions, List of Lights etc.) - <i>Type de publications produites (par ex: Tables des marées, Instructions nautiques, Livres des Feux, etc. -Tipo de publicaciones producidas (por ej: Tablas de mareas, Derroteros, Libros de Faros etc)</i></p>	<ol style="list-style-type: none"> 1. West Coast of India Pilot. 2. Bay of Bengal Pilot. 3. List of Radio Signals (Vol – I) 4. List of Radio Signals (Vol – II) 5. List of Radio Signals (Vol – V) 6. List of Radio Signals (Vol – VI) 7. List of Light & Fog Signals (Vol D&E). 8. List of Light & Fog Signals (Vol F&K) 9. Notices to Mariners (Special Edition). 10. Notices to Mariners (Annual Edition). 11. Notices to Mariners (Fortnightly Edition). 12. Symbols and Abbreviations 13. Catalogue of Charts & Publications. 14. Nautical Almanac. 15. Tidal Predictions. 16. Wreck List 2012. 																														
<p>Surveying vessels/ Aircraft – Bâtiments hydrographiques/aéronefs - Buques hidro-gráficos/ Aeronaves</p> <p>SANDHAYAK</p> <p>NIRDESHAK</p> <p>NIRUPAK</p> <p>INVESTIGATOR</p> <p>JAMUNA</p> <p>SUTLEJ</p> <p>DARSHAK</p> <p>SARVEKSHAK</p> <p>MAKAR</p>	<table border="1"> <thead> <tr> <th>Displacement</th> <th>Date Launched</th> <th>Crew</th> </tr> </thead> <tbody> <tr> <td>1820</td> <td>1981</td> <td>200</td> </tr> <tr> <td>1820</td> <td>1983</td> <td>200</td> </tr> <tr> <td>1820</td> <td>1985</td> <td>200</td> </tr> <tr> <td>1820</td> <td>1990</td> <td>200</td> </tr> <tr> <td>1820</td> <td>1991</td> <td>200</td> </tr> <tr> <td>1820</td> <td>1993</td> <td>200</td> </tr> <tr> <td>1820</td> <td>2001</td> <td>200</td> </tr> <tr> <td>1820</td> <td>2002</td> <td>200</td> </tr> <tr> <td>594</td> <td>2012</td> <td>50</td> </tr> </tbody> </table>	Displacement	Date Launched	Crew	1820	1981	200	1820	1983	200	1820	1985	200	1820	1990	200	1820	1991	200	1820	1993	200	1820	2001	200	1820	2002	200	594	2012	50
Displacement	Date Launched	Crew																													
1820	1981	200																													
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1820	1991	200																													
1820	1993	200																													
1820	2001	200																													
1820	2002	200																													
594	2012	50																													
<p>Outsourcing strategy - <i>Stratégie en matière de travail exécuté sous contrat à l'extérieur -estrategia de contratación de trabajos.</i></p>	<ol style="list-style-type: none"> 1. Nil on Survey 2. Nil on ENC Production 																														
<p>Other information of interest - <i>Autres informations utiles - Otra información de interés.</i></p>	<ol style="list-style-type: none"> 1. National Institute of Hydrography is the Institute for Hydrographic Training. The Long Hydrographic Course and Basic "H" Course conducted by National Institute of Hydrography have been awarded CAT "A", CAT "B" accreditation by FIG/IHO Advisory Board on Standards of Competence for Hydrographic Surveyors. In April 2013 the accreditation has been renewed for a further period of six years. 2. ENCs of 100 % of National Water have been produced. Regular updates of ENCs are promulgated fortnightly. 																														

	<p>3. In 2011 India proposed inclusion of 26 additional INT charts in the region. Therefore, out of 82 INT Charts to be produced by India, 53 have been published.</p> <p>4. The Hydrographic Department of India has the required resources, Infrastructure and technical expertise to assist littoral states in the following areas:</p> <p>(i) Conduct of Hydrographic, Oceanographic and Coastal Zone Regulation Plan Surveys.</p> <p>(ii) Training in Hydrography and Cartography.</p> <p>(iii) Setting up of hydrographic infra-structure and Hydrographic Office.</p> <p>(iv) Exchange of personnel.</p> <p>(v) Production of Electronic Navigational Charts (ENCs).</p> <p>(vi) EEZ/Continental Shelf Surveys.</p>
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1. HYDROGRAPHIC SURVEYING

1.1 **Status of Hydrographic survey of all Navigable Waters, including internal waters, out to the limits of the EEZ** : *(Please refer to the guidance given in the introductory text “Analysis of the Status of Surveys”.)*

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
Depths<200 m	100	0	0
Depths>200 m	90	10	0

Amplifying Information:

(a) The entire navigational area in depths less than 200 meters has been adequately surveyed. There are few small areas where the charted data is based on old surveys. These areas are well away from the shipping routes and are of no interest to the Mariners.

(b) There are some areas in Indian Waters where the seabed is unstable. A cautionary note to this effect is printed on Navigational Charts.

1.2 Significant shortfalls in sea areas of high priority for maritime traffic:

a. Maritime Shipping Routes:

(1) International (i.e. between hub ports): **NIL**

(2) Regional (i.e. between hub ports and feeder ports): **NIL**

(3) Internal (i.e. from feeder ports to other national ports; cruise liner routes): **NIL**

b. Ports and approaches: **NIL**

c. Other (fisheries; offshore industry): **NA**

1.3 Status of Hydrographic survey of all Navigable Waters, including internal waters, out to the limits of the EEZ of dependent territories:

NA

1.4 Status of Hydrographic survey of all Navigable Waters, including internal waters, out to the limits of the EEZ of developing countries where surveys have been, or are being carried out by your hydrographic service:

NA

2. NAUTICAL CHARTING

2.1 Status of Nautical Charting within the limits of the EEZ

Coverage of charts published by your organisation, 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.

Purpose/Scale	A	B	C
Offshore passage/small	100	0	100
Landfall and Coastal passage/Medium	100	0	100
Approaches and Ports/Large	100	0	100
Percentage of Group A showing depths in meters	100		
Percentage of Group A referenced to a satellite datum	80		

Amplifying notes : **Nil**

Significant gaps in coverage : **Nil**

2.2 Status of Nautical Charting within the limits of the EEZ of dependent territories

NA

2.3 Status of Nautical Charting produced by mutual agreement within the limits of the EEZ of other coastal states

NA

3. MARITIME SAFETY INFORMATION (MSI)

NAVIGATIONAL INFORMATION (S-53)

Service	Yes	No	Partial	Notes
Local Warnings	√			
Coastal Warnings	√			
Navarea Warnings	√			
Information of Ports and Harbours	√			

GMDSS IMPLEMENTATION (IMO Publication 970 - GMDSS Handbook)

Service	Yes	No	Partial	Notes
Master Plan	√			
A1 Area	√			
A2 Area	√			
A3 Area	√			
NAVTEX	√			
Safety NET	√			

4. NATIONAL PRIORITIES FOR INTERNATIONAL AND OR REGIONAL CO-OPERATION OR ASSISTANCE

4.1 If international or regional projects are underway in your waters, please indicate here:

NA

4.2 Indicate below any priorities for co-operation or assistance:

(a) Projects meriting IHO liaison with international funding agencies:

(i) Regional co-operative projects : **India has provided technical expertise and contributed US \$ 1.687 mn for setting up of wind, current and tide sensors in the Straits of Malacca and Singapore (Project IV) under the aegis of the Co-operative Mechanism on the Safety of Navigation and Environmental Protection in the Straits of Malacca and Singapore.**

(ii) National Projects: **MoU on hydrographic cooperation with Mauritius till Oct 2015.**

(b) Requirements for training assistance: **NIL**

(c) Requirements for assistance with procurement of equipment: **NIL**

5. GENERAL COMMENTS OR ADDITIONAL INFORMATION

World Hydrographic Day celebrations. The World Hydrographic Day was celebrated in India at NHO Dehradun, National Institute of hydrography (NIH), Goa and onboard ships at Vishakapatnam, Kochi and Karwar. Keeping in view the theme "Hydrography – Underpinning the Blue Economy" workshops, lectures, demonstrations and visits by undergraduate and senior school students were organised at these locations.

Signature:


Commander Ashish Arya
Joint Director of Hydrography
(International Affairs)

Date: **21 FEB 2014**