

**NATIONAL REPORT
NATIONAL HYDROGRAPHIC OFFICE
INDIA**

NATIONAL REPORT TO REGIONAL HYDROGRAPHIC COMMISSION
REPUBLIC OF INDIA- FEB 2015

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 mandated the responsibility of publication of nautical charts and publications for navigation at sea. As part of its international responsibilities, the department provides coverage for Maritime Safety Information (MSI) in the region NAVAREA VIII comprising of Indian Ocean, Arabian Sea and Bay of Bengal. The department has a fleet of seven modern ocean-going survey ships and one twin hulled catamaran survey vessel; fully equipped with latest hydrographic and oceanographic sensors. Six more ships including a dedicated training vessel is presently under construction at various shipyards in the country.

1.2 The National Institute of Hydrography (NIH), Goa, an integral part of the INHD, has the national responsibility for conduct of hydrographic training 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 along with duration are 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 eligible students are also 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 from Cochin University of Science and Technology.	20 Weeks
(d)	<u>Basic 'Q'</u> An entry level sailor qualifying course.	16 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. On 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 are under progress during the ongoing survey season. An average of 51 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. All the future Catamaran survey vessels will also be equipped similarly.



2.3 **Processing System/ Software.** The department has acquired full digital capability. The digital hydrographic data collected by ships undergoes QA/QC checks at the National Hydrographic Office (NHO) before being inserted into the hydrographic database towards production of paper charts and ENC's. Over the last three years the CARIS HPD has produced about 110 paper charts and 130 equivalent ENC's.

2.4 **New Ships.** The department presently has a fleet of seven ocean going helicopter 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 also being planned for induction during 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 bring out products with appropriate CATZOC 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 130 ENCs and equivalent paper charts have been published through HPD with another 60 under various stages of production. As on 31 Jan 2015 India has produced 291 ENC Cells which includes 25 ENCs of other countries. The breakdown of the ENCs released with their respective usage band is tabulated below:-



<u>CATEGORY</u>	<u>USAGE BAND</u>	<u>No OF ENC's</u>
Overview	1	6
General	2	26
Coastal	3	38
Approach	4	48
Harbour	5	111
Berthing	6	62
Total		291

3.2 **Foreign Water Charts and ENC's.** INHD has so far published 25 ENC's and equivalent paper charts of foreign waters. More charts of Mauritius, Kenya, Tanzania and Mozambique will be added 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 the responsibility to produce 80 INT charts. Out of which India has produced **63 INT charts** and the remaining are planned to be produced in the near future in the HPD with associated ENC's.

3.4 Summary of charts/ publications printed during 2014 are as follows: -

<u>Sl</u>	<u>Description</u>	<u>Nos.</u>
(a)	New Charts	50
(b)	New Editions	02
(c)	Reprints	83
(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 the NHO website. Under a bilateral arrangement, UKHO publishes Indian charts for distribution through their agents. These paper charts are updated by fortnightly Notice to Mariners, which are available on the NHO website www.hydrobharat.nic.in

3.6 **ENC Distribution.** Indian ENC's are distributed worldwide by VARs namely UKHO, M/s Jeppesen Marine and M/s PRIMAR. INHD also provides ENC's 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 under intimation to National Hydrographic Office, Dehradun. Broadcast is closely monitored by various authorities.

4.2. **Existing NAVTEX Stations.**

- (a) Chennai -
 - (b) Mumbai - Under repair
 - (c) Mauritius - Operational
 - (d) Seychelles (Mahe) - Operational
- } Will be replaced by new stations
(refer para 4.4)

4.3. Furthermore, all the updated warnings including the Notices to Mariners are available on the INHO website www.hydrobharat.gov.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 May 2015 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 maritime nations of the region in incremental improvements towards hydrographic training and hydrographic foreign cooperation. The initiatives include joint hydrographic surveys with onboard hydrographic training, training at NIH and specialized courses for Multibeam training and ENC production.

7. **Foreign Cooperation.** INHD has carried out hydrographic surveys in Mauritius, Kenya, Tanzania and Seychelles over the last few years as per the request received from respective Governments. Avenues for cooperation are also being explored with other members of NIOHC. Hydrographic cooperation with the following countries has been progressed in the recent past:-

(a) **India - Kenya.** On the request received from the Govt of Kenya the survey of Manda Bay and Mkokoni Bay was undertaken by IN Ship Jamuna in Sep – Oct 14.



(b) **India – Tanzania.** The survey of Port of Zanzibar was undertaken by INS Jamuna in Oct- Nov 14.



(c) **India- Mauritius.** In the last nine years, post signing of the MoU on hydrography, INHD has completed Twenty One hydrographic surveys and eight navigational charts have been published, these are Agalega Island (Chart 2084), Approaches to Port Louis, Port Louis (Chart 2514), 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 Hydrographic Survey Unit consisting of 01 officer and 02 sailors has been established in Mauritius since Oct 2013 for undertaking local hydrographic survey and to assist in setting up Hydrographic Infrastructure in Mauritius. India has also gifted a survey launch to Mauritius in Feb 2013. India has been conferred as producer nation status

of Indian Chart No 2514 (INT 7739) as a first step and the transition for remaining charts is being undertaken in a phased manner.

(d) **Antarctica Survey Programme.** India is a member of the Hydrographic Committee on Antarctica. A delegation from INHD participated in the 33rd Indian Antarctica expedition from Dec 13 to Apr 2014. One more team has been deputed for the 34th Indian Antarctic expedition and are expected to return by early April 2015. 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.



7.1. **Training.** The Long Hydrographic Cat 'A' Course and Basic "H" Cat 'B' course programmes conducted at National Institute of Hydrography (NIH), Goa were re-certified by IHO constituted International Board on Standards of Competence (IBSC), for a further period of six years in April 2013. Since its inception, a total of 581 foreign nationals have been trained at National Institute of Hydrography (NIH), Goa. Trainees from Bangladesh, Fiji, Indonesia, Kenya, Maldives, Mauritius, Mozambique, Myanmar, Nigeria, Oman, Philippines, Srilanka, South Africa, Tanzania and Vietnam attended various courses conducted at the NIH during the past one year. The number of foreign personnel trained in the year 2014-15 are as follows:-

<u>Sl No</u>	<u>Course</u>	<u>No of Foreign Trainees</u>	<u>Countries</u>
(a)	Long 'H'	10	Nigeria –2, Tanzania-1,Fiji-1, Phillipines-1, Bangladesh-1, Sri Lanka-2, Vietnam-1, Myanmar -1
(b)	Basic 'H'	13	Myanmar – 1,Sri Lanka – 1,Nigeria – 2,Vietnam – 2,Kenya – 1,Fiji – 1& Phillipines – 1, Tanzania-1, Bangladesh-1, Oman-1
(c)	PO 'Q' SR	05	Bangladesh-1,Sri Lanka – 2& South Africa-2
(d)	Basic 'Q'	05	Mauritius-01, Bangladesh-01, Sri Lanka-2, Myanmar-2, Fiji-1
	Total	33	

8. **Oceanographic Activities.** The Indian Naval Survey Ships regularly carryout oceanographic surveys. The data is collected while undertaking hydrographic surveys. Apart from this the department provides assistance to various government organizations towards collection of the oceanographic data.

MISCELLANEOUS

9. **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 Visakhapatnam, Kochi and Karwar. Keeping in view the theme "Hydrography- Much more than just Nautical Chart" workshops, lectures, demonstrations and visits by undergraduate and senior school students were organised at these locations.

9.1 **World Hydrographic Day at Visakhapatnam** As a part of the World Hydrographic Day celebration, a lecture was conducted on 23 Jun 14 on 'ENC and Digital Charts'. The lecture was intended to enhance the awareness on the topic. Vice Admiral Bimal Kumar Verma PVSM, Chief of Staff was the chief guest. In his inaugural address the Chief Guest expressed his satisfaction over the quality task being carried out by the National Hydrographic Office in nation building and the yeoman service rendered to the mariners. He briefed the audience about the importance of hydrography in the wide realms of life including maritime defence, navigation, search and rescue operations, coastal engineering, marine science, port development, oceanography etc. The Chief Guest also shared his long time association with the survey ships and hydrographers. The lecture was intended for Bridge Watch keeping officers and RP rate sailors from the Command and Fleet as well. The lecture was attended by over 300 officers and men.

9.2 **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 Hydrography and its importance, including the History and evolution of Hydrography. The invitees were also given a glimpse of the Emerging Technologies in the field of Hydrography and the Way ahead.

(b) **Visit by Naval NCC Cadets** An educational ship visit for Naval NCC cadets from various educational Institutions of Karwar was conducted onboard INS Makar. Following activities were undertaken during their visit:-

(i) **Display of Hydrographic Equipment.** The invitees were taken for a walk around and introduced to the state of art survey equipment fitted onboard was displayed. The basic operations and role of each equipment was demonstrated.



(ii) **Display of Fair Tracing.** On completion of the walkaround students visited the Survey Chart Room. The Fair tracings of recently conducted hydrographic surveys was displayed for better understanding of the subject.

9.3 **National Institute of Hydrography** The World Hydrography Day was conducted with the aim of spreading awareness amongst the non hydrographic surveying community. The Institute organised a series of presentations on the theme "Hydrography- Much more than just Nautical Chart" to enhance awareness amongst school children with special emphasis on economic benefits that could be accrued. The presentations were also attended by officers undergoing the IHO Cat 'A', Cat 'B' courses from 10 countries (Nigeria, Sri Lanka, Myanmar, Fiji, Bangladesh, Vietnam, Tanzania, Philippines, Kenya and Oman). In addition other officers and sailors also participated in the event and showed keen interest on the influence of Hydrography and its impact on the world economy.

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 2015**

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 Adhir Arora, NM Principal Director</p> <p>Commodore Ravi Nautiyal 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 SS Bhosale Director of Hydrography (Hydrographic Data Mangement)</p> <p>Captain J Gurumani Director of Hydrography (Perspective Plan)</p> <p>Captain A Muralidhar Director of Hydrography (Material)</p> <p>Commander Ashish Arya Joint Director of Hydrography (International Affairs)</p> <p>Commander A Banerjee Director of Hydrography Staff Officer to Chief Hydrographer</p>

	<p>Commander BK Prasanna Joint Director of Hydrography (Budget)</p> <p>Commander RB Menon Joint Director of Hydrography (Materials)</p> <p>Commander Amit Pant Joint Director of Hydrography (Territorial Water)</p> <p>Commander Prachit Mangrulkar Joint Director of Hydrography (Operations)</p> <p>Commander Ajay Chauhan Joint Director of Hydrography (Security Clearance)</p> <p>Commander GA Mathew Joint Director of Hydrography (Chart Sales & Distribution)</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>370</p>				
<p>N° of INT charts published -<i>Nombres de cartes INT publiées - N° de cartas INT publicadas.</i></p>	<table border="0"> <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				

N° of ENC cells published - <i>Nombres de cellules ENC publiées - N° de células ENC publicadas.</i>	291																											
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>	<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 (FortnightlyEdition). 12. Symbols and Abbreviations 13. Nautical Almanac. 14. Tidal Predictions. 																											
Surveying vessels/ Aircraft – Bâtiments hydrographiques/aéronefs - Buques hidro-gráficos/ Aeronaves SANDHAYAK NIRUPAK INVESTIGATOR JAMUNA SUTLEJ DARSHAK SARVEKSHAK MAKAR	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Displacement</th> <th style="width: 30%;">Date Launched</th> <th style="width: 40%;">Crew</th> </tr> </thead> <tbody> <tr> <td>1820</td> <td>1981</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	1985	200	1820	1990	200	1820	1991	200	1820	1993	200	1820	2001	200	1820	2002	200	594	2012	50
Displacement	Date Launched	Crew																										
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1820	1985	200																										
1820	1990	200																										
1820	1991	200																										
1820	1993	200																										
1820	2001	200																										
1820	2002	200																										
594	2012	50																										
Outsourcing strategy - <i>Stratégie en matière de travail exécuté sous contrat à l'extérieur -estrategia de contratación de trabajos.</i>	<ol style="list-style-type: none"> 1. Nil on Survey 2. Nil on ENC Production 																											
Other information of interest - <i>Autres informations utiles - Otra información de interés.</i>	<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 																											

	<p>been produced. Regular updates of ENCs are promulgated fortnightly.</p> <p>3. In 2011 India proposed inclusion of 26 additional INT charts in the region. Therefore, out of 80 INT Charts to be produced by India, 63 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 ENCs 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.**

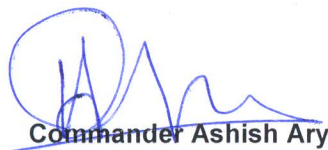
(b) Requirements for training assistance: **NIL**

(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- Much more than just Nautical Chart" 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: **28** FEB 2015