



## INTERNATIONAL HYDROGRAPHIC ORGANIZATION ROPME SEA AREA HYDROGRAPHIC COMMISSION



### CAPACITY BUILDING PLAN Programme document for the period 2019-2021

## 1. INTRODUCTION

### 1.1. Rationale

The name Persian Gulf in most cases refers not only to the Persian Gulf, but also the Gulf of Bahrain, the Gulf of Oman, and the Strait of Hormuz as well as various outlets that are linked to the Arabian Sea. It is generally considered to be among the richest regions of the world in terms of hydrocarbon resources, both oil and gas reserves with an area of approximately 93,000 square miles. As one of the waterways with the largest traffic and the highest strategic significance in the world, the Persian Gulf holds some 728 billion barrels of proven oil reserves, representing over half (57 to 68%) of the world's oil reserves, and 2,462 Tcf (trillion cubic feet) of natural gas reserves (40% of the world total). Furthermore, the Littoral States of the Persian Gulf possess around one-third of the world's productive oil capacity, while some 17 million barrels of crude oil pass through the Strait of Hormuz every day, turning it into a world's major maritime transit chokepoint. Thus, there is no doubt that even temporary blockage of this strait would lead to substantial disruption in energy markets.

The water in the Persian Gulf is relatively shallow, and deep-draught tankers may have to navigate for a considerable distance with little water beneath their keels. For these reasons, it is crucial that parties to the SOLAS Convention conduct hydrographic surveys as and when required, arrange for the compilation and publication of hydrographic data, and disseminate and keep all nautical information necessary for safe navigation up to date.

The IHO Capacity Building Strategy classifies the development of hydrographic services into three phases:

- Phase 1: Collection and circulation of nautical information, necessary to maintain existing charts and publications up to date;
- Phase 2: Creation of a surveying capability to conduct coastal and offshore projects; and
- Phase 3: Produce paper charts, ENC and publications independently.

According to SOLAS Convention, coastal/maritime states have certain treaty obligations placed on them and the IHO/RSAHC effort aims at assisting states in meeting these obligations. To achieve this a national understanding and coordination effort is required noting that:

- resources (human, time, finance etc) are limited, consequently prioritization is a fundamental issue;
- planning must be realistic;
- longer term training such as CAT A or B are not covered because such training is out of the scope of the IHO CB budget.

Nowadays, the rapidly evolving technology has replaced old navigation paradigms and demands continuous investments in education and training so that the Hydrographic Services can continue to provide high quality products and services which satisfy new demands of the maritime community.

RSAHC is aware of its Member States' efforts to provide quality service to the international maritime community in order to contribute to the safety and security of navigation and human life at sea as well as the preservation of the environment in its region and, as part of the IHO community, to contribute to the achievement of the objectives and directions of the Organization.

## 1.2. Aims and objectives

The aims of the Plan are:

- a) to train staff, at various levels, to ensure a much needed capability on hydrography and nautical cartography, particularly after natural disaster or other incidents which could affect water depths in harbours and approaches; and
- b) to comply with the IHO resolutions and guidelines regarding hydrographic and nautical cartographic activities.

The medium term objectives of this Plan are:

- a) to ensure a basic level of MSI is established in all coastal states to, produce Local/Coastal/NAVAREA Warnings, communicate effectively with the charting authority and implement the MSI elements of GMDSS;

The longer term objectives are:

- a) to instruct staff in the region on the methods of carrying out hydrographic surveys, to improve safety of navigation through enhanced navigational products;
- b) to promote the establishment of Hydrographic Services (HS) and the evolution of CB Phases of the established ones.

## 1.3. Priorities

Despite the breadth of need existing in the Region, for the period of 2019 to 2021, priorities should be set in the sequence of the following list, the first of which are the highest:

- 0 - activities which may promote awareness of national hydrographic obligations;
- 1 - activities which may improve the capacity of existing HS in Phase 1;
- 2 - activities which may improve the capacity of existing HS in Phase 2; and
- 3 - activities which may improve the capability of existing HS in Phase 3.

Note the link between the training activities listed in paragraph 2. Activities below, and phases 0 to 3 listed above

The current hydrographic capacity status of countries/territories of the region is in Annex A.

## 1.4. Methodology and Procedures

This Plan will be reviewed each year, and adjustments made as necessary.

Each year the Commission will decide responsibilities for the programmed events of the subsequent year.

The RSAHC Capacity Building Coordinator will send to the Chair, no later than January 31<sup>st</sup> of each year details of all planned projects, yet the CB coordinator for this region has been newly appointed, and the above deadline was therefore not met. The projects must be written in the standards established by the IHO CBSC (see Annex B).

Projects supported by IHO CB Fund must follow the IHO CBSC procedures published at the IHO website.

The Chair will check the proposed projects and, if requesting IHO CB Fund support, will send them to the IHO CBSC Chair and Secretary no later than MARCH 15<sup>th</sup>, otherwise, will take the appropriate action. In this regard, we have planned some training courses between NIOHC and RSAHC, as joint training programs for the year 2020.

## 2. Activities

Phase	Activity	Project Objective	Target Audience
	<b><u>Technical and Advisory Visits</u></b>		
0.1	<b>High level visit to governmental authorities</b>	To raise government awareness of their SOLAS treaty obligations	Related Ministries and Heads of National Agencies, particularly

Phase	Activity	Project Objective	Target Audience
			governmental decision makers
0.2	<b>Technical assessment and advice visit</b>	Provide advice to identify how coastal states meet their hydrographic and MSI responsibilities	Maritime Sector National Agencies. Stakeholders and decision makers
0.3	<b>Technical Implementation Visit</b>	To audit the state of recommendations made as a result of previous technical visits	Maritime Sector National Agencies. Stakeholders and decision makers
0.4	<b>Seminar on Raising Awareness of Hydrography</b>		Maritime Sector National Agencies. Stakeholders and decision makers
	<b><u>Technical Workshops, Seminars, Short Courses</u></b>		
1.1	<b>MSI Course (3 days) Training on establishment of MSI structure and basic MSI procedures</b>	To establish a core group of trained persons to deal with MSI	MSI Practitioners
1.2	<b>Phase 1 Skills (5 days) An introduction to the assessment and promulgation of navigationally significant data</b>	To provide a core group with the skills and knowledge to assess and promulgate navigationally significant information to the wider maritime community (this course supports the MSI course)	MSI Practitioners
1.3	<b>MSI Workshop (3 days)</b>	To reinforce the learning at 1.1 above	MSI Practitioners
2.1	<b>Basic Hydrographic Survey Course (10 days)</b>	To provide awareness of national hydrography, hydrographic surveying and nautical cartography	Maritime Sector Decision Makers
2.2	<b>Port and Shallow Water Survey Course (5 days)</b>	A workshop to aid exchange of information and ideas about the challenges faced by port and shallow water surveyors in the RSAHC region	Port Surveyors
2.3	<b>MBES Processing (5 days)</b>	To train a group of hydrographic surveyors the techniques required to post-process MBES data	Hydrographic Practitioners
2.4	<b>MSDI and Database Management (5 days)</b>	To give participants an understanding of spatial data infrastructures (SDI) including the importance and role of data management and databases	Government Planners
2.5	<b>Tides and Water Level Workshop (5 days)</b>	To provide fundamental knowledge and understanding of tides and water level, and their applications for hydrographic surveying and mapping activities	Hydrographic Practitioners
2.6	<b>Seabed Classification Workshop (5 days)</b>	To provide a group of professionals with the skill and knowledge to use acoustic techniques to map extensive seabed surfaces and to determine the products of seabed mapping	Hydrographic Practitioners
3.1	<b>Basic ENC and ENC Production course (10 days)</b>	To train a group of professionals with a practical introduction to S-57 data	Cartographic Practitioners
3.2	<b>ENC Production and QA (5 days)</b>	To train a group of professionals to verify and validate S-57 data	Cartographic Practitioners
4.1	<b>Law of the Sea Workshop (5 days)</b>	To teach participants the basic technical principles applicable to maritime boundary delimitation. The delegates should be from technical hydrographic or cartographic	Maritime Sector Decision Makers

Phase	Activity	Project Objective	Target Audience
		backgrounds	
4.2	<b>Tsunami inundation mapping workshop (5 days)</b>	To improve the modelling and presentation of regional tsunami inundation maps	Maritime Sector and emergency planning
4.3	<b>Foundation Module of the Marine Cartography &amp; Data Assessment (MCDA) CAT B Course (3 weeks)</b>	To provide participants with the knowledge of cartographic basics covering the underlying details of the nautical chart.	Cartographic Practitioners
4.4	<b>Compilation Module of the Marine Cartography &amp; Data Assessment (MCDA) CAT B Course (5 weeks)</b>	A highly practical module where the student will compile into a database all the relevant nautical chart content in compliance with IHO S-57 using CARIS S-57 Composer software.	Cartographic Practitioners
4.5	<b>Product Construction Module of the Marine Cartography &amp; Data Assessment (MCDA) CAT B Course (2 weeks)</b>	This module covers the production of an ENC base cell including ENC validation and exchange set creation using CARIS S-57 Composer together with the production of a Paper Chart using CARIS Paper Chart Composer.	Cartographic Practitioners
4.6	<b>Data Assessment Module of the Marine Cartography &amp; Data Assessment (MCDA) CAT B Course (3 weeks)</b>	This module focuses on decision making and processing of new information using software and traditional checking processes.	Cartographic Practitioners
4.7	<b>Maintenance Module of the Marine Cartography &amp; Data Assessment (MCDA) CAT B Course (2 weeks)</b>	Another highly practical module which features Notice to Mariner updating of digital and paper products together with New Edition maintenance of the ENC and Paper Chart.	Cartographic Practitioners
	<b><u>Long Courses and Programmes</u></b>		
HA	<b>Category “A” Hydrographic Programme</b>	A recognized CAT A level Programme in accordance with IHO Publication S-5 – <i>Standards of Competence for Hydrographic Surveyors</i>	Hydrographic Managers
HB	<b>Category “B” Hydrographic Programme</b>	A recognized CAT B level Programme in accordance with IHO Publication S-5 – <i>Standards of Competence for Hydrographic Surveyors</i>	Hydrographic Practitioners
CA	<b>Category “A” Nautical Cartography Programme</b>	A recognized CAT A level Programme in accordance with IHO Publication S-8 – <i>Standards of Competence for Nautical Cartographers</i>	Cartographic Managers
CB	<b>Category “B” Nautical Cartography Programme</b>	A recognized CAT B level Programme in accordance with IHO Publication S-8 – <i>Standards of Competence for Nautical Cartographers</i>	Cartographic Practitioners
	<b><u>On-the-job and onboard training</u></b>		
OJ	<b>On-the-job training</b>		
OB	<b>Onboard training</b>		

### 3. Capacity Building Program

The program of capacity building activities for the period 2019 – 2021 is detailed in Annex **C**.

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**RSAHC Counties/Territories Capacity Building Phase Stage**Reference: [http://www.iho-ohi.net/mtg\\_docs/CB/CBA\\_TechnicalVisits.htm](http://www.iho-ohi.net/mtg_docs/CB/CBA_TechnicalVisits.htm)

	Country / Territory	NHC or NHCC	CB Phase 1	CB Phase 2	CB Phase 3	Last TV
1	Bahrain	-1	4	4	4	2008
2	Iran	2	4	4	4	2007
3	Iraq	-1	1	1	3	
4	Kuwait	-1	1	2	3	
5	Oman	2	4	4	4	2007
6	Pakistan	2	4	4	4	N/R
7	Qatar	-1	1	4	3	2007
8	Saudi Arabia	1	4	4	3/4	2007
9	United Arab Emirates	1	1	2	3	2013

**KEY**

1. The numerical grid below describes the status of the National Hydrographic Committee (NHC)/National Hydrographic Coordination Committee (NHCC):

Value	Assessment
-1	No information available
0	The country does not have a NHC/NHCC
1	The country is in the process of establishing a NHC/NHCC
2	The country has established a NHC/NHCC

2. The numerical grid below applies to the Phases:

Value	Assessment
-1	No information available
0	The country is unaware of its national obligations
1	The country is aware of its national obligations but does not have the means to do it
2	The country has the ability to fulfil national obligations
3	The country fulfils its national obligations through a third party
4	The country fulfils its national obligations in a sustainable manner

**Note:** the assessment represented by 3 is an alternative to 4 as explained in the IHO's Capacity Building Strategy

3. Those coastal states with a mature hydrographic service and consequently don't require a technical visit are marked as N/R (not required)



PROJECT SUBMISSION MODEL
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**IDENTIFICATION**

Project Number:
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<b>Project Name:</b>	
<b>Submitting RHC/Country:</b>	
<b>Date:</b>	
<b>Institution executing the project:</b>	
<b>Name of responsible:</b>	
<b>Address:</b>	
<b>Telephone:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

**GENERAL SPECIFICATIONS**

(Please provide detailed information in Annex of no more than three pages)

<b>Background information</b>	
<i>Justification of the project</i>	

<i>Countries involved</i>	
<b>Exposition of the problem</b>	
<b>General objective</b>	
<b>Specific objectives</b>	
<b>Outputs/Products</b>	
<b>Other deliverables</b>	
<b>Achievements and awaited benefits</b>	

<b>Schedule of activities</b>	
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**RESOURCES**

<b>Contribution by countries involved</b>	
<b>Contribution</b>	

<b>by other parties</b>	
<b>Contribution expected from CBCFund</b>	
<b>Total Cost (euros)</b>	
<b>Breakdown of costs</b>	
<b>From CBC Fund (item and amount)</b>	

**PROJECT SUMMARY**

<b>Sponsor RHC</b>	<b>Year of Execution</b>	<b>Country/ Countries involved</b>	<b>Priority/ Status</b>	<b>Project Name</b>	<b>Project Objective</b>	<b>Benefits</b>	<b>Assistance required</b>	<b>Cost</b>	<b>Allocation and Priority (to be filled by CBC)</b>	<b>Contact Person</b>

**Name and Signature of the RHC Chairman .....**



## TRAINING REQUIREMENTS OF REGIONAL COUNTRIES (RSAHC)

COUNTRY	TRAINING REQUIRED
<b>Bahrain</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> <li>3. Training on MBES (2.3)</li> <li>4. Basic ENC and ENC Production course(3.1)</li> <li>5. ENC Production and QA (3.2)</li> </ol>
<b>IR of Iran</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> <li>3. Training on MBES (2.3)</li> <li>4. Basic ENC and ENC Production course (3.1)</li> <li>5. ENC Production and QA (3.2)</li> <li>6. Technical Implementation Visit (0.3)</li> <li>7. MSDI and Database Management (2.4)</li> </ol>
<b>Iraq</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> <li>3. Training on MBES (2.3)</li> <li>4. Basic ENC and ENC Production course(3.1)</li> <li>5. ENC Production and QA (3.2)</li> </ol>
<b>Kuwait</b>	NIL
<b>Oman</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> <li>3. Training on MBES (2.3)</li> <li>4. Basic ENC and ENC Production course(3.1)</li> <li>5. ENC Production and QA (3.2)</li> </ol>
<b>Pakistan</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> </ol>
<b>Qatar</b>	All hydrography and Cartography related trainings
<b>Saudi Arabia</b>	<ol style="list-style-type: none"> <li>1. Category A Hydrography (HA)</li> <li>2. Category B Hydrography (HB)</li> <li>3. Training on MBES (2.3)</li> <li>4. Basic ENC and ENC Production course(3.1)</li> <li>5. ENC Production and QA (3.2)</li> </ol>
<b>UAE</b>	NIL

**Note1: Activities of this table should be discussed during RSAHC8 Meeting, before finalizing.**

**Note2: long term training such as CAT A or B are not covered because such training is out of the scope of the IHO CB budget.**

**Capacity Building Program for the period 2019 – 2021**  
**After it was approved by RSAHC8 Meeting**

**2019**

<b>Activity</b>	<b>Phase</b>	<b>Beneficiaries Countries / Territories</b>	<b>Responsible</b>	<b>Period</b>	<b>Obs.</b>
Extraordinary Technical Implementation Visits (5days)	0.3	For identified coastal states	RSAHC CB Coordinator	TBA	I.R.of Iran
MSDI and Database Management (5 days)	2.4	For identified coastal states	RSAHC CB Coordinator	TBA	
MBES Processing (5 days)	2.3	For identified coastal states	RSAHC CB Coordinator	TBA	

**2020**

<b>Activity</b>	<b>phase</b>	<b>Beneficiaries Countries / Territories</b>	<b>Responsible</b>	<b>Period</b>	<b>Obs.</b>
Technical Implementation Visit	0.3	For identified coastal states	RSAHC CB Coordinator	TBA	I.R. of Iran
MSI Course joint program (3days)	1.1	For identified coastal states	NIOHC and RSAHC Coordinator	TBA	
MSDI and Database Management joint program (5 days)	2.4	For identified coastal states	NIOHC and RSAHC Coordinator	TBA	
Basic ENC and ENC Production course (10days)	3.1	For identified coastal states	RSAHC CB Coordinator	TBA	

**2021**

<b>Activity</b>	<b>phase</b>	<b>Beneficiaries Countries / Territories</b>	<b>Responsible</b>	<b>Period</b>	<b>Obs.</b>
Technical Implementation Visit	0.3	For identified coastal states	RSAHC CB Coordinator	TBA	TBD
ENC Production and QA ( 5days)	3.2	For identified coastal states	RSAHC CB Coordinator	TBA	

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