IHO STRATEGIC PLAN 2009

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1. Preamble

Hydrography is the branch of applied science which deals with the measurement and description of the physical features of oceans, seas, coastal areas, lakes and rivers, as well as with the prediction of their change over time, for the primary purpose of safety of navigation and in support of all other marine activities, including economic development, security and defence, scientific research, and environmental protection.

The International Hydrographic Organization (IHO) is an inter-governmental consultative and technical organization, governed by an international Convention. Its members are the Governments Parties to this Convention. Established in 1921, the IHO is a competent international organization, as referred to in the United Nations Convention on the Law of the Sea. It primarily supports the safety of navigation and the protection of the marine environment, and coordinates on a worldwide basis the setting of standards for the production of hydrographic data and the provision of hydrographic services in accordance with the SOLAS Convention. It also facilitates capacity building of national hydrographic services. It provides a forum at international level for the improvement of hydrographic services through the discussion and resolution of hydrographic issues and it assists member governments to deliver these services in the most cost effective way through their national hydrographic offices. The IHO Convention is subject to a protocol of amendments which is under ratification.

The work of the Organization is guided by two core documents:

- a strategic plan;
- a multi-annual work programme.

2. Vision, Mission and Object

The **vision** of the IHO is to be the authoritative worldwide hydrographic body which actively engages all coastal and interested States to advance maritime safety and efficiency and which supports the protection and sustainable use of the marine environment.

The **mission** of the IHO is to create a global environment in which States provide adequate and timely hydrographic data, products and services and ensure their widest possible use.



The **object** of the IHO is proposed in Article II of the amended Convention. *It shall be the object of the Organization:*

- (a) To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography;
- (b) To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and

- services;
- (c) To improve global hydrographic capability, capacity, training, science and techniques;
- (d) To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;
- (e) To give authoritative and timely guidance on all hydrographic matters to States and international organizations;
- (f) To facilitate coordination of hydrographic activities among the Member States; and
- (g) To enhance cooperation on hydrographic activities among States on a regional basis.

3. Strategic assumptions

The strategic assumptions are identified as "strengths" (S), "weaknesses" (W) "opportunities" (O) or "threats" (T) for the implementation of IHO objectives.



1. Status of hydrographic services / Benefits and beneficiaries

- 1.1 An adequate hydrographic infrastructure is an essential geospatial foundation layer (O).
- 1.2 There is globally still insufficient awareness (and therefore funding) about the level and importance of hydrographic services (W).

2. Political and societal trends

- 2.1 Globalization will continue to increase the demands on maritime trade and coordinated support services (O).
- 2.2 Growing environmental awareness will generate increasing demands and wider uses for hydrographic information beyond solely core navigational safety use (O).
- 2.3 Human performance in all sections of the maritime industry (including shipping) is a major concern in terms of safety (O/W).

3. Economic and market related trends

- 3.1 90 % of the world trade is conducted through maritime routes and presently 800 major ports, a figure that is growing, and is a key dependency for the world economy (O).
- 3.2 Maritime industry is an indispensable partner within the hydrographic community (O).
- 3.3 Long term investment is required to provide and maintain an appropriate hydrographic infrastructure and the benefits are indirect (W).

4. Technological trends

4.1 Technological developments (digital era, high rate communication systems and precise positioning systems) are a major driving force for changes (O).

5. Legal and regulatory trends

- 5.1 The provision of hydrographic services by contracting governments will remain regulated at the international level by the SOLAS Convention (S).
- 5.2 National and international regulations are developing about mandatory data exchange/distribution/access for natural risk mitigation, protection of the environment and the competitive development of value added downstream services (O/T).

5.3 There will be increased regulation with regard to security that will require earlier and more detailed information on vessel movements and will potentially increase control over vessels within national waters (O).

4. Strategic directions

Taking into account the strategic assumptions, the IHO will pursue the following strategic directions, in order to fulfil its mission and objectives:

1. Strengthen the role and effectiveness of the IHO

The IHO will continue its leading role as the competent international organization on all hydrographic matters by responding more efficiently and effectively to the needs of the maritime community, government, science and industry for hydrographic data, products and information through:



- implementing proactive, efficient and dynamic procedures and mechanisms that respond effectively to emerging trends, developments and challenges;
- closer and more effective cooperation with other international organizations, in order to 1.2 respond to cross-agency issues and thereby promote coherence and efficiency;
- 1.3 various stakeholders, including non-governmental international organizations, government, industry, academia and others, in the technical work of its bodies, in order to ensure a more inclusive approach to decision-making and the optimum use of high fidelity data;



developing, improving, promulgating and promoting clear, uniform, global hydrographic 1.4 standards to enhance safety of navigation at sea, protection of the marine environment, maritime security and economic development;



1.5 promoting the role of hydrography in supporting relevant related ocean sciences.

2. Facilitate global coverage and use of official hydrographic data, products and services

The IHO will strive to achieve global coverage and availability of high quality official hydrographic data, information, products and services necessary for safety of navigation at sea and for non-navigational uses, e.g. by means of the developing spatial data infrastructure, through:



- 2.1 coordinating effectively Member State activities for the provision of coherent, standardized and well coordinated hydrographic services, in accordance with regulation 9, of Chapter V of the SOLAS Convention;
- 2.2 enhancing and supporting cooperation on hydrographic activities among States on a regional basis under the aegis of the Regional Hydrographic Commissions;
- expanding membership of the IHO; 2.3
- encouraging and supporting the establishment of new Hydrographic Offices: 2.4
- encouraging and supporting the development and promotion of integrated navigation systems and geospatial data infrastructures;
- promoting the use of new technologies and the opportunities offered by globalization and 2.6 international cooperation.

3. Raise global awareness of the importance of hydrography

The IHO will champion the awareness at national, regional and global levels of the importance and benefits of hydrography and the provision of hydrographic services for all marine activities, through:

- 3.1 ensuring that the role and responsibilities of national Hydrographic Offices are clearly understood at all levels in the marine and public communities;
- 3.2 supporting and promoting the benefits of national Hydrographic Offices and hydrographic programmes;
- 3.3 bringing the importance of hydrography on issues affecting safety of navigation at sea, protection of the marine environment, maritime security and economic development to the attention of International Organizations, funding agencies, national governments, maritime stakeholders and others;
- 3.4 preparing and promoting education and outreach programmes which involve fostering a well informed citizenry and creation of a public awareness of the importance of hydrography and its role in daily life.

4. Assist Member States to fulfil their roles

The IHO will help and support its Member States in fulfilling their present roles and in meeting future demands and requirements as effectively and efficiently as possible, through;

- 4.1 acting as a focal point and forum for all hydrographic matters;
- 4.2 supporting national initiatives aimed at developing and enhancing hydrographic infrastructure;
- 4.3 encouraging bilateral and regional cooperation on hydrographic and related matters;
- 4.4 strengthening the IHO capacity-building programme in order to better support the needs of Member States, especially those developing their capabilities from maritime safety information through surveying to nautical charting and marine spatial data infrastructure.

5. Ways and means

5.1. Planning and review cycles

The planning and review cycles for the Strategic Plan and the Work Programme are fixed by the administrative resolution T5.1.

The inter-sessional supervision of the Strategic Plan is coordinated by the International Hydrographic Bureau (IHB) until the Council is established.

5.2. Risk analysis and mitigation

An analysis is conducted during the preparation of the Work Programme in order to:

- (a) identify the risks associated with each strategic direction in the Strategic Plan, understand how and when they arise, identify the stakeholders, and
- (b) estimate their likelihood of occurrence and impact on the IHO, its Member States and other stakeholders if any (eg IMO), and
- (c) identify the range of mitigating actions required, responsible owners/stakeholders, priority/dates assigned to them with any resource requirement that will be needed.

The Work Programme is designed to implement the strategic directions while mitigating these risks.

A risk management framework is set out in Annex A.

5.3. Work Programme



The Work Programme covers the period starting on 1st January of the year following the ordinary session of the International Hydrographic Conference (*the International Hydrographic Conference* to be replaced by *the Assembly* when the Assembly is established) and ending on 31st December of the year of the next ordinary session.

The Work Programme is divided into the following three programmes:

- (a) *Corporate Affairs* under the responsibility of the International Hydrographic Bureau (to be replaced by the Secretary General when the revised IHO Convention enters into force),
- (b) Hydrographic Services and Standards under the responsibility of the relevant Committee (HSSC),
- (c) *Inter Regional Coordination and Support* under the responsibility of the Inter Regional Coordination Committee (IRCC),

according to the responsibilities of the main organs of the IHO which are summarized in Annex B.

The HSSC programme includes the activities to be conducted by its subordinate bodies.

The IRCC programme includes the activities to be conducted by its subordinate bodies as well as by the Regional Hydrographic Commissions.

Activities of individual Member States which are relevant to the implementation of the strategic directions are listed in the appropriate programme.

Each item of the programmes identifies:

- (a) the strategic direction to which it refers,
- (b) any stakeholder outside the IHO that is affected,
- (c) the deliverables and associated milestones,
- (d) the lead authority and participants, if any,
- (e) the estimated resources from the IHO budget,
- (f) other resources when significant,
- (g) the performance indicator(s) against which progress is monitored.

The Work Programme is reviewed annually under the supervision of the IHB, in consultation with the chairs of HSSC and IRCC (the IHB in consultation with the chairs of HSSC and IRCC to be replaced by the Council when the Council is established).

6. Progress monitoring

The mechanism to monitor the implementation of the Strategic Plan and identify any needs for revision includes the following elements:

- the definition of performance indicators (PIs) against which progress in implementing the strategic directions is periodically assessed;

- the review of progress with strategic directions through the performance indicators;
- the review of the adequacy of the strategic directions in relation with the progress made and with the strategic assumptions on which they are based;
- the review of the ongoing validity of the strategic assumptions themselves since they were first set, in relation to the objectives of the organization and (see WP10) taking into account any subsequent changes in
 - o status of hydrographic services / benefits and beneficiaries,
 - o political and societal trends,
 - o economic and market related trends,
 - o technological trends,
 - o legal and regulatory trends.

Taking into account the object of the Organization and the strategic directions, the Work Programme will be measured by indicators which should show critical items / risk factors picture of productivity (considering, among others, budget factor) and the level of achievement of strategic objectives. They should also indicate future trends: forecast upturn / downturn.

The periodicity of measure should be annual, in accordance with the Work Programme review cycle.

At the end of the period of the Work Programme (every five years until the revised IHO Convention enters into force and then every three years) these indicators will compose data source for the review of the Strategic Plan and / or the Work Plan.

The implementation of performance indicators is based on a two level approach:

- strategic level: a small number of PIs associated with the objectives of the IHO (1 or 2 PIs per objective), to be agreed by the Conference (the Conference to be replaced by the Assembly when the revised IHO Convention enters into force) and managed by the IHB (the IHB to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force);
- working level: PIs associated with the strategic directions and managed by the appropriate subsidiary organs;

In this perspective cross-references between the objectives, the strategic directions and the proposed PIs are arranged in the following way:

Objectives => strategic PIs => strategic directions => responsible organs => working level PIs

Accordingly, the assessment of the working level PIs and the review of progress with the strategic directions are considered in two phases: an initial review by the leading organ and an overall review by the IHB (the IHB to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force). Together with the assessment of the strategic PIs, these results are then submitted for consideration by the Conference (the Conference to be replaced by the Assembly when the revised IHO Convention enters into force). The submission should include a qualitative and, where practicable quantitative, assessment of progress based on the value of the PIs. It should also include recommendations on management actions to be considered where trends indicate either

a lack of progress or a change to an underlying assumption/direction is required. In this way the aim can be maintained and evidence of progress monitored/presented.

The review of the strategic assumptions is prepared by the IHB (the IHB to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force) for consideration by the Conference (the Conference to be replaced by the Assembly when the revised IHO Convention enters into force). The submission should include an analysis of the relevance of the strategic assumptions and recommendations on the changes to be considered.

Annex A Risk management framework

1. Risk Management Policy

1.1. Policy aim and objective

- to stimulate common risk management awareness within IHO,
- to adopt a uniform risk management framework and embed it in IHO's strategic planning processes,
- to proactively identify and analyse IHO's highest risk exposures and define the options to properly treat them.
- to select and implement the appropriate options which minimise IHO's exposure to risk in the most cost (both financial, and non-financial) effective way.

1.2. General Methodology

IHO requires that identified risks are managed in such a way that they are not unduly threatening the strategic objectives and consequently the successful achievement of IHO's Mission. Risk management activities are therefore addressed at two levels:

- <u>strategic</u> level by the IHB (the IHB to be replaced by the Secretary General when the revised IHO Convention enters into force) and processed <u>top down</u>,
- working level by subordinate bodies under HSCC/IRCC and processed bottom up.

Both levels are merged through the Work Programme which is reviewed annually under the supervision of the IHB, in consultation with the chairs of HSSC and IRCC (the IHB in consultation with the chairs of HSSC and IRCC to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force).

1.3. Roles and Responsibilities

The IHB (the IHB to be replaced by the Secretary General when the revised IHO Convention enters into force) is ultimately responsible to Member States for the IHO's risk management. He has the responsibility for ensuring that the risk management framework is effectively implemented within IHO and that its principles are communicated at all levels. He will also provide the necessary profile to advance a risk management culture in IHO, including participation in its monitoring and reporting.

The IHB, in consultation with the chairs of HSSC and IRCC, (the IHB, in consultation with the chairs of HSSC and IRCC, to be replaced by the Secretary General and the Council when the revised IHO Convention enters into force), is responsible for the routine oversight of the IHO's risk management programme, its implementation, agreeing risk tolerances and treatment and their regular monitoring.

2. Risk Management Process

2.1. Context

IHO's risk environment is established by the trends and developments identified as relevant to IHO's strategic objectives. The so called strategic assumptions are described in chapter 3 of this Strategic Plan and are labelled as "strengths" (S), "weaknesses" (W), "opportunities" (O), "threats" (T). These assumptions contain possible risks to the associated strategic directions (chapter 4) to fulfil IHO's objectives and ultimately its mission, and will therefore be the starting point for an in-depth risk identification.

2.2. Risk Identification

The strategic directions (SD) are not necessarily independent of each other. Possible risks are firstly identified for each individual SD. During the risk assessment phase risks common to more than one SD will be identified. Risks will be categorized in (1) *internal*, i.e. originating from within the IHO community, and (2) *external*. The relevant strategic assumptions are indicated in brackets.

SD1 Strengthen the role and effectiveness of the IHO

Internal

- lack of means (capacity/competence/budget) (1.2, 2.3)
- lack of consensus 'how' (5.2, 5.3)
- deficiency in standards (4.1)

External

- technological developments too fast to cope (4.1)
- national developments (political/legal) hamper cooperation (5.2)

SD2 Facilitate global coverage and use of official hydrographic data, products and services,

Internal

- Member State (MS) not able to comply (2.3, 3.3)
- MS not aware of the level of importance to comply (1.2)
- lack of consensus 'how' (5.2, 5.3, 3.1)
- deficiency in standards (4.1)

External

- lack of means (capacity/competence/budget) (3.3)
- technological developments too fast to cope (4.1)
- national developments (political/legal) hamper cooperation (5.2)

SD3 Raise global awareness of the importance of hydrography

Internal

- lack of means (capacity/competence/budget) (1.2, 2.3)

External

- lack of knowledge/competence/interest (2.3)

SD4 Assist Member States to fulfil their roles

<u>Internal</u>

- lack of means (capacity/competence/budget) (1.2, 2.3)

External

- national developments (political/legal) hamper cooperation (5.2)

2.3. Risk Assessment

Identified risks need to be assessed in relation with their potential severity of impact and with their probability of occurrence. The risk assessment should produce such information for the management of the organization that the primary risks are easy to understand and that the risk management decisions may be prioritized. The accepted formula for risk quantification is:

Rate of occurrence (or probability) multiplied by the numerical indicator of the impact of the event equals risk

A five-category approach is considered adequate:

Probability of occurrence within the time frame of the work programme:

- 5 extreme
- 4 high
- 3 medium
- 2 low
- 1 negligible

Impact of the event on the IHO:

- 5 extreme threatens survival of IHO
- 4 high threatens credibility of IHO
- 3 moderate -threatens present structure of IHO
- 2 low shift of focus/means
- 1 negligible solved within existing process/structure IHO
- 0 absent nil impact

Based on this approach the identified risks are assessed as follows:

	Prob.	Impact	Risk
<u>Internal</u>			
- lack of means (capacity/competence/budget) (1.2, 2.3)	4	4	16
- lack of consensus 'how' (5.2, 5.3, 3.1)	3	4	12
- Member State (MS) not able to comply (2.3, 3.3)	4	5	20
- MS not aware of the level of importance to comply (1.2)	3	4	12
- deficiency in standards (4.1)	4	4	16
<u>External</u>			
- technological developments too fast to cope (4.1)	3	4	12
- national developments hamper cooperation (5.2)	3	2	06
- lack of means (capacity/competence/budget) (3.3)	4	4	16
- lack of knowledge/competence/interest (2.3)	4	3	12

The following prioritisation of SD's follows from this risk assessment:

Sum of risks

(1) SD2 Facilitate global coverage and use of official hydrographic data, products and services:,

	27
(2) SD1 Strengthen the role and effectiveness of the IHO	62
(3) SD3 Raise global awareness of the importance of hydrography	28
(4) SD4 Assist Member States to fulfil their roles	22

One can observe that the impact differs from one SD to another. From this assessment it becomes clear that the realisation of SD2 is directly linked to the 'survival of IHO' and other SD's much less.

2.4. Risk Treatment

Given the nature of the identified risks the treatment is to be found in 'reduction' and 'retention'. As *internal* risks are within the direct influential sphere of the IHO it makes sense to initially identify the three most relevant **risks** at a strategic level, i.e. which threaten accomplishment of SD's and ultimately the mission, and decide on an effective treatment.

(1) SD2 :	Member State (MS) not able to comply (2.3, 3.3)	4	5	20
	lack of consensus 'how' (5.2, 5.3, 3.1)	3	4	12
(2) SD1&4	4: lack of means (capacity/competence/budget) (1.2, 2.3)	4	4	16

When a MS is not able to comply with **SD2**, IHO has mechanisms (i.e. capacity building programmes through RHCs in the Work Programme, or support by individual HOs, e.g. drawing on the guidelines for the implementation of the WEND principles) in place to support the involved HO, and so reduce the risk. This confirms this risk has already been identified by the IHO. The solution to this particular situation however is also linked to both **SD1&4**, and therefore viable for their risks. If there is lack of means (capacity, competence, funding) to implement the existing mechanisms to support the involved HO it will still not

<u>timely</u> comply with **SD2**. In this situation an individual HO can offer support; it is however essential that the way the support is executed is in line with the principles of IHO.

To mitigate the risk of MS's not complying with **SD2**; it is essential that the management (IHB/Secretary General in conjunction with IRCC and RHC Chair) identifies (a) the number of possible HOs (lack of capacity; competence) involved, (b) a realistic (timely) estimate of the needed qualified capacity and funding (identifying shortcomings), and (c) if a supporting HO acts in accordance with the principles of the IHO (Capacity building; WEND).

An escalation mechanism could be considered if required: identified MS to be approached via IMO or directly through diplomatic channels to stress its responsibility.

The IHB (*The IHB* to be replaced by *The Secretary General* when the revised IHO Convention enters into force) (or RHC Chair) should preferably approach MS supported by individual HOs to verify the terms and conditions of this support. Action should be considered if these terms and conditions are not in accordance with agreed IHO principles.

In the interest of quality assurance of products (related to competence), IHO could put more emphasis on ISO-certification of HOs.

2.5. Implementation of the risk management plan

The agreed treatment should be executed to reduce the identified risks. It can be decided to select more risks to SDs and work out their 'top down' *risk treatment*. It is advised to also decide on possible risks from a bottom-up perspective; this could be executed by subordinate bodies of the IHO in line with this framework.

2.6. Review and evaluation of the plan

Risk management is dynamic. It is therefore important to monitor, review and evaluate the risk management plan. To monitor the progress on the SDs, the IHB (*the IHB* to be replaced by *the Secretary General and the Council* when the revised IHO Convention enters into force) and IHO subordinate bodies use the agreed performance indicators (PIs). In case of deficiencies originated by identified risks, action should be taken in accordance with the agreed treatment/plan. The risk management plan should be reviewed, evaluated and updated annually by the IHB (*the IHB* to be replaced by *the Secretary General and the Council* when the revised IHO Convention enters into force).

The attached scheme summarizes the risk management process.

3. Glossary

Risk

A combination of the probability of any risk event and its consequences (impact).

Risk event

Any event which may adversely impact on the ability of the IHO to meet its objectives.

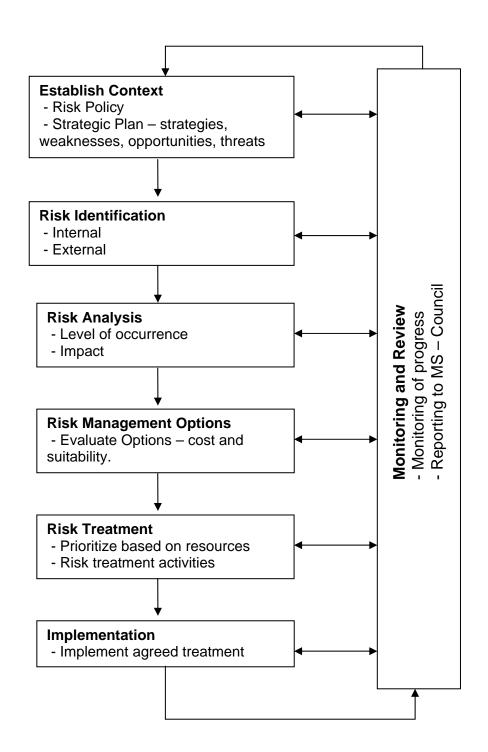
Risk management

The process of identifying, assessing, communicating and mitigating risks impacting on the IHO's ability to meet its objectives.

Risk tolerance

A measurement of the IHO's willingness to accept risk, being the highest level of risk at which additional mitigating controls are not required.

SCHEMATIC REPRESENTATION OF THE RISK MANAGEMENT PROCESS



Annex B Responsibilities of IHO organs

1. International Hydrographic Bureau (IHB)

Extract from the IHO General Regulations

(...)

The Directing Committee [of the IHB], taking into consideration the work of Committees and Working Groups, should present to all ordinary Conferences a Programme Budget proposal containing the work programme to be carried out during the following period, and the financial implications related to it, to be analyzed, discussed and decided upon at Plenary Session. The plan should be distributed to all Member States at least 4 months before the Conference.

 (\ldots)

The Directing Committee shall be guided by the IHO Strategic Plan and the Five Year Rolling Work Programme

2. Secretary General

Extract from the revised IHO General Regulations

 (\ldots)

The Secretary-General shall:

(...)

(c) support the Council in preparing proposals concerning the overall strategy and the work programme;

3. Hydrographic Services and Standards Committee (HSSC)

Extract from terms of reference for the HSSC (CL 115/2007 of 10 December 2007)

Considering the need to promote and coordinate the development of standards, specifications and guidelines for official products and services to meet the requirements of mariners and other users of hydrographic information, the International Hydrographic Organization establishes a Hydrographic Services and Standards Committee (HSSC) with the following Terms of Reference and Rules of Procedure.

(...)

- 6. Prepare a Committee Work Program and propose it to each ordinary session of the International Hydrographic Conference ("each ordinary session of the International Hydrographic Conference" to be replaced by "the Assembly" via the Council when the Assembly and the Council are established). Consider and decide upon proposals for new work items under the Committee Work Program, taking into account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Program.
- 7. Monitor the execution of the Committee Work Program and report to each ordinary session of the International Hydrographic Conference ("ordinary session of the International Hydrographic Conference" to be replaced by "meeting of the Council" when the Council and Assembly are established), including an evaluation of the performance achieved.

4. Inter Regional Coordination Committee (IRCC)

Extract from terms of reference for the IRCC (CL 115/2007 of 10 December 2007)

Considering the need to promote and coordinate those activities that might benefit from a regional approach, and considering further that Capacity Building has been identified as a strategic objective, the International Hydrographic Organization establishes a Inter Regional Coordination Committee (IRCC) with the following Terms of Reference and Rules of Procedure.

(...)

- 6. Prepare a Committee Work Program and propose it to each ordinary session of the International Hydrographic Conference ("each ordinary session of the International Hydrographic Conference" to be replaced by "the Assembly" via the Council when the Assembly and the Council are established). Consider and decide upon proposals for new work items under the Committee Work Program, taking into account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Program.
- 7. Monitor the execution of the Committee Work Program and report to each ordinary session of the International Hydrographic Conference ("ordinary session of the International Hydrographic Conference" to be replaced by "meeting of the Council" when the Council and Assembly are established), including an evaluation of the performance achieved.