**INTERNATIONAL HYDROGRAPHIC ORGANISATION HYDROGRAPHIQUE**



**ORGANIZATION INTERNATIONALE**

NAUTICAL INFORMATION PROVISION  
WORKING GROUP  
(NIPWG)

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]

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**NIPWG Letter: 01/2016**

**To NIPWG Members** Date 11 April 2016

**Subject: Development of MSPs related to IHO work**

References: NIPWG ToR, NIPWG Work Plan, HSSC7 (action item 7/35)

As defined in the NIPWG ToR, the NIPWG Work Plan and as assigned by HSSC7, the NIPWG has to coordinate the IHO submissions to the relevant IMO bodies.

Dear Colleagues,

The development of e-navigation under the overall coordination of the IMO is guided by a Strategy Implementation Plan (SIP), which was approved by MSC 94 in November 2014. The SIP (NCSR1/28, annex 7) identifies Maritime Service Portfolios (MSPs) as the future means of providing digital ship to shore and shore to ship information services in a harmonized way.

The SIP identifies six different areas for the delivery of MSPs:

1. port areas and approaches;
2. coastal waters and confined or restricted areas;
3. open sea and open areas;
4. areas with offshore and/or infrastructure developments;
5. Polar areas; and
6. other remote areas.

The way forward for MSPs is assigned to SIP task T17 stating “Further develop the MSPs to refine services and responsibilities ahead of implementing transition arrangements”. An initial list of MSPs has been annexed to the SIP. This paper lists 16 different MSPs:

| **MSP** | **Service** | **Service Provider** | **Short Description** |
| --- | --- | --- | --- |
| MSP1 | VTS Information Service (IS) | VTS Authority |  |
| MSP2 | Navigational Assistance Service (NAS) | National Competent VTS Authority/Coastal or Port Authority |  |
| MSP3 | Traffic Organization Service (TOS) | National Competent VTS Authority/Coastal or Port Authority |  |
| MSP4 | Local Port Service (LPS) | Local Port/Harbour Operator |  |
| MSP5 | Maritime Safety Information Service (MSI) | National Competent Authority | The Global Maritime Distress and Safety System (GMDSS) as described in SOLAS chapter IV defines the seventh functional requirement as:  "Every ship, while at sea, shall be capable of transmitting and receiving maritime safety information".  The MSI service is an internationally coordinated network of broadcasts of Maritime Safety Information from official information providers, such as: National Hydrographic Offices, for navigational warnings and chart correction data; National Meteorological Offices, for weather warnings and forecasts; Rescue Co-ordination Centres (RCCs), for shore-to-ship distress alerts; and  the International Ice Patrol, for Oceanic ice hazards.  Specific information on Aids to Navigation and restrictions on safe navigation are part of MSI services provided by National Authorities. This can include but is not limited to, the following type of information to be available to mariners: status of Aids to Navigation; status of GPS and DGPs;  buoy tendering operation; and  restrictions on safe navigation such as bridge/hydro cable air gap, new hazards, construction or dredging operations. |
| MSP6 | Pilotage service | Pilot Authority/Pilot Organization |  |
| MSP7 | Tugs Service | Tug Authority |  |
| MSP8 | Vessel Shore Reporting | National Competent Authority, Shipowner/Operator/Master |  |
| MSP9 | Telemedical Assistance Service (TMAS) | National Health Organization/dedicated Health Organization |  |
| MSP10 | Maritime Assistance Service (MAS) | Coastal/Port Authority/Organization |  |
| MSP11 | Nautical Chart Service | National Hydrographic Authority/ Organization | The aim of the nautical chart service is to safeguard navigation at sea by providing information such as nature and form of the coast, water depth, tides table, obstructions and other dangers to navigation, location and type of aids to navigation.  The Nautical Chart service also ensure the distribution, update and licensing of electronic chart to vessels and other maritime parties. |
| MSP12 | Nautical Publications Service | National Hydrographic Authority/ Organization | The aim of the nautical publication service is to promote navigation awareness and safe navigation of ships. The nature of waterways described by any given nautical publication changes regularly, and a mariner navigating by use of an old or uncorrected publication is courting disaster. Nautical publications include:  tidal currents, aids to navigation system, buoys and fog signals, radio aids to marine navigation, chart symbols, terms and abbreviations, sailing directions; and a Chart and Publication Correction Record Card system can be used to ensure that every publication is properly corrected prior use by mariners. |
| MSP13 | Ice Navigation Service | National Competent Authority/ Organization | The ice navigation service is critical to safeguard the ship navigation in ice-infested waters, given how quickly the ice maps become outdated in the rapid changing conditions of the ice-covered navigational regions.  Such services include: ice condition information and operational recommendations/advice; ice condition around a vessel; vessel routing; vessel escort and ice breaking; ice drift load and momentum; and ice patrol. |
| MSP14 | Meteorological Information Service | National Meteorological Authority/WMO/ Public Institutions |  |
| MSP15 | Real-time Hydrographic and Environmental Information Service | National Hydrographic and Meteorological Authorities | The real-time hydrographic and environmental information service is essential to safeguard navigation at sea and protect the environment. The services provided are such as:  current speed and direction; wave height; marine habitat and bathymetry;  Sailing Directions (or pilots): detailed descriptions of areas of the sea, shipping routes, harbours, aids to navigation, regulations, etc.; lists of lights: descriptions of lighthouses and lightbouys; tide surge prediction tables and tidal stream atlases; ephemerides and nautical almanacs for celestial navigation; and  notice to mariners: periodical (often weekly) updates and corrections for nautical charts and publications. |
| MSP16 | Search and Rescue Service | SAR Authorities |  |

Five services out of this list are affected by themes and responsibilities within the IHO scope. Those are

* MSP 5 - Maritime Safety Information (MSI) service;
* MSP 11 - Nautical chart service;
* MSP 12 - Nautical publications service;
* MSP 13 - Ice navigation service; and
* MSP 15 - Real-time hydrographic and environmental information service.

The IHO’s position is that these MSPs in their strict segmentation reflect the traditional methods of promulgating nautical information. In IHO´s opinion reflected in the associated report to NAV59 (NAV59/6/4), the themes of these MSPs do not address the desired flexibility offered by digital products and electronic display and information systems in the context of e-navigation and should therefore be revised.

In order to progress task T17, MSC 96/23/7 proposes a new output on e-navigation related to Maritime Service Portfolios (MSPs). It aims to define and harmonize the format and structure of MSPs and to provide guidance on the appropriate communication channels used for the electronic exchange of information between shore and ship, including any necessary coordination mechanisms and transitional arrangements that may be required. This document acknowledges that the IHO has agreed to coordinate the development of MSPs within its remit. In this context concerns on the possible duplication of efforts, development of regional solutions, use of different communication systems and the provision of superfluous or non-interoperable information were raised. The document proposes to harmonize the format and structure of MSPs and to assign this work to NCSR as the coordinating organ.

**Action on NIPWG**

As a result of the above mentioned activities, and based on action item HSSC7/35, the NIPWG should start the discussion process on which type of MSP(s) would sufficiently match the scope of the Hydrographic Authorities/ Organizations in both technical and organisational aspects.

**Proposed future MSP for which the National Hydrographic Authority/ Organization would be responsible for**

It is proposed to merge the MSPs 11, 12 and the MSP 5 parts pertaining to the hydrographic offices/agencies to

| **MSP** | **Service** | **Service Provider** | **Short Description** |
| --- | --- | --- | --- |
| MSP number | Hydrographic Services | National  Hydrographic Authority/ Organization | Provision of SOLAS V compliant static and real-time nautical information based on the S-100 universal hydrographic data model. The nautical information is also available for other stakeholders.  The information is to be delivered and maintained in form of interoperable product specifications. The portrayal of information is harmonized. The provision of the information is based on a common data quality specification. In addition to the protection of the environment, the aim is to promote navigation awareness, and safeguard navigation at sea by providing information such as: areas of the sea, nature and form of the coast, nature of waterways, shipping routes, water depth, obstructions and other dangers to navigation, aids to navigation system, details of aids to navigation, harbours, tide surge prediction, tidal currents, tidal streams, ephemerides and nautical almanacs for celestial navigation.  The real-time hydrographic and environmental information service provides information such as: current speed and direction, height of the tide, wave height, marine habitat and bathymetry.  A sophisticated distribution, licensing and update service has to be established. The collection and provision of information coming from various sources directly or preprocessed to the end user system.  Immediate navigational warnings related to the status of the Aids to Navigation and chart correction data shall be provided using MSP5 (MSI) services. This includes but is not limited to: status of Aids to Navigation, status of GPS and DGPS, buoy tendering operation, and restrictions on safe navigation such as bridge/hydro cable air gap, new hazards, construction or dredging operations. |

**Proposal to introduce a new MSP without National Hydrographic Authority/ Organization responsibility to the IMO**

| **MSP** | **Service** | **Service Provider** | **Short Description** |
| --- | --- | --- | --- |
| MSP Number | Ship Reporting Systems | ?????? | Provision of a common interface to support all existing SRSs.  Establishment of an infrastructure to collect, to exchange and to utilise the reported data. |

**MSPs rational**

Hydrographic Services

The e-navigation concept is based on the assumption that an ubiquitous communication infrastructure providing sufficient bandwidth for ship shore interaction will be permanently available. That offers new possibilities for the provision and updating of nautical publications, such as books, charts and supplementary publications and for the provision of real-time data. Considering that the assumed technical infrastructure will be available in the future, the distinction between chart, publication and real time data delivery is no longer required. Instead, a combined data stream of charted and text oriented information describing the same subject could be handled by the respective end users application on both sea and shore side. In addition, these information packages could be enhanced with real-time information.

Ship Reporting Systems

SRS are established in many areas around the world. Mariners face problems if they are requested to provide e.g. the same information in different formats. Furthermore, the granularity and the different description of the requested information is a challenge. The HOs can only assist in providing the static “nautical” information related to each SRS. The data utilisation and the reduction of the administrative burden for the mariners by establishing a data exchange system is the responsibility of other administrations and is related to the proposed MSP.  
The IHO and HOs could contribute/cooperate to the development of this MSP. The development leadership doesn’t fall within the IHO/HOs’ remit and should be the responsibility of other administrations.

**Requests**

I would like to invite you to consider the proposed two new MSPs. The first one (Hydrographic Services) intends to replace the three said IMO MSPs. The second one (Ship Reporting System) would be a new MSP which should be proposed to the IMO to be added to the MSPs collection.

Do the two proposed MSPs reflect the IHO/HOs position on hydrographic services and Ship Reporting Systems sufficiently? In particular, I would like to invite you to check whether the short descriptions are comprehensive enough or if new items should be added or if items should be deleted from the lists.

Your feedback is appreciated **by the** **31 May 2016** at the latest.

Yours sincerely,



Jens Schröder-Fürstenberg, Chairman