

**Paper for Consideration by the  
Joint 26<sup>th</sup> TSMAD and 5<sup>th</sup> DIPWG Meeting.  
Silver Spring, Maryland, USA(10-14 June 2013)**

## A plan for East Asia Regional Marine Environment MIO

<b>Submitted by:</b>	Republic of Korea (ROK)
<b>Executive Summary:</b>	Marine environment MIO Working Group under EAHC CHM (Cartography and Hydrography Meeting) was organized to establish regional marine environment MIO specifications and datasets. This paper introduces the background and plan for this project.
<b>Related Documents:</b>	IHO S-57, S-52, S-100, S-101, and S-99 standards
<b>Related Projects:</b>	EAHC Cartography & Hydrography Meeting, Marine Environment MIO WG Project

### Introduction / Background

1. At a recent meeting of the East Asian Hydrographic Commission (EAHC), an overview of the status of Marine Electronic Highway (MEH) Project for the Malacca and Singapore Straits was provided. In particular, an Environmental Sensitivity Index (ESI) Map and Japan's environmental GIS initiative based on web GIS technology (called CeisNet : Coastal Environmental Information Service) were presented at EAHC Task Group Meeting. While most national HOs are not directly responsible for marine environmental protection, it was agreed that a HO is an appropriate body to produce and maintain an Environmental MIO (Envir-MIO) database.

2. For this reason, a Marine environment MIO working group was established under the Cartography & Hydrography Meeting of EAHC. Further, it was agreed to establish the East Asia marine environment MIO specifications, database and test bed initiative.

### Analysis/Discussion/Conclusions

4. As specified in the Terms Of Reference, the Marine environment MIO working group is to conduct a number of tasks.

- Develop exchange standards and product specifications for Envir-MIO in relation to the S-57 and S-100/10x in consultation with EAHC Member States and other established International working groups.
- Use the existing ENCs as a basis for the development of a regional database. The specifications of the Envir-MIO objects and attributes shall be developed in consultation with EAHC MS (Hydrographic Offices) and other related national authorities. This includes environmental agencies, Coast Guard Vessel Traffic Service centres, and oil spill response agencies.
- Review the specifications developed by the IMO, IHO, IALA, IOC and IEC related to the provision and display of supplemental chart and navigation-related information on ECDIS. To the extent possible, use those that are relevant.
- Examine available Environmental Sensitivity Index (ESI) criteria used by coastal States, international organisations, etc. in order to develop a common ESI for use in the EAHC.
- Establish a database framework for a regional Envir-MIO, including the ESI.

5. The working group agreed to focus on oil spill response among various categories on marine environment, and will try to develop product specification and datasets based on existing international and national guidelines. This includes Sensitivity mapping, oil spill response by the IMO/IPIECA/OGP, ESI Map Guideline of IUCN and NOAA, and oil-spill response information map which were established by EAHC HOs.

6. The Working Group will investigate the process required to transition from a S-57-based ENC and associated Envir-MIO for oil spill response, to a future the S-10X dataset. More specifically, this project should provide useful insight for developing the S-10X standard applied to marine environment based on IHO's existing and new hydrographic data models (S-57 → S-100). Further, it is expected that the S-10X product specification template and Check List (developed by TSMAD) can be used.

8. At the next TSMAD meeting, progress made and technical issues/requirements that were encountered will be reported.

### **Recommendations**

9. It is requested that TSMAD:

- a. Assess major performance plans and contents of the marine environment ENC working group under the EAHC CHM;
- b. Advise the technical issues that should be considered in this project;
- c. Recommend a way forward for successful use of the S-10X template and Check List.

### **Justification and Impacts**

10. The proposed actions should verify that user requirements can be met when developing S-10X product specifications based on the S-100 standard through the research implemented by the marine environment MIO working group under the EAHC CHM.

### **Action Required of TSMAD**

TSMAD is invited to:

- a. take note of this initiative.
- b. provide recommendations that may be helpful in developing a S-10X standard for marine environmental protection.