

Paper for Consideration by NIPWG

[Proposal of a new S-10X Prodspec on catalogue of charts and publications]

Submitted by:	Republic of Korea (KHOA)
Executive Summary:	This paper proposes a new S-10X Prodspec to facilitate exchanging the publication status of the catalogue of charts and publications among hydrographic offices and relevant organizations and to be used in nautical charts and publication service of the IMO e-Navigation.
Related Document:	S-100
Related Projects:	S-11 Part B INTToGIS project, e-Navigation MSP

Introduction / Background

Hydrographic offices (HOs) publish lists of charts and publications to provide their current status, which are shared among other HOs, RHCs and the IHO in hard copy and various digital formats.

Particularly, the IHO and the KHOA have been cooperating on the web-based GIS management system development project to improve the INT Chart service of S-11 Part B. In the project, developing a standard format was required to facilitate exchanging lists of products among users and member states.

Meanwhile, the IMO drafted the SIP (Strategy Implementation Plan) for e-Navigation. As nautical chart and publication services were included in the MSP (Maritime Service Portfolio), developing a standard on exchanging lists of nautical charts and publications was needed to support the shore-based e-Navigation services.

After reviewing the need to develop an S-100 based standard on lists of nautical charts and publications, this paper aims to seek comments from relevant experts to propose the S-10X as a new standard to the IHO.

Analysis/Discussion

Catalogue of charts and publications

One of the nautical publications the HO manages is the catalogue of charts and publications, which includes publication information of paper charts and ENCs (chart number, title, coverage), and the list of nautical publication such as sailing directions, tidal tables, and list of lights. In addition to this basic information, other useful information like various thematic maps from different publisher countries, sales agents, distributors, price list for charts and publications is included.

The catalogue of charts and publications is useful in identifying the publication status and how to purchase. However, it is difficult to ensure the catalogue is up-to-date, and to facilitate exchanging it between stakeholders as the catalogue is published in a paper format.

INT Chart of S-11 Part B

Hydrographic offices exchange lists of charts and publications within the international hydrographic community. For example, the IHO receives the INT Chart publication status of its Member States from regional coordinators and manages the information as S-11 Part B documents. Fig. 1 is an example of the S-11 Part B on a map which includes a published coverage and in a table with detailed information of INT Charts.

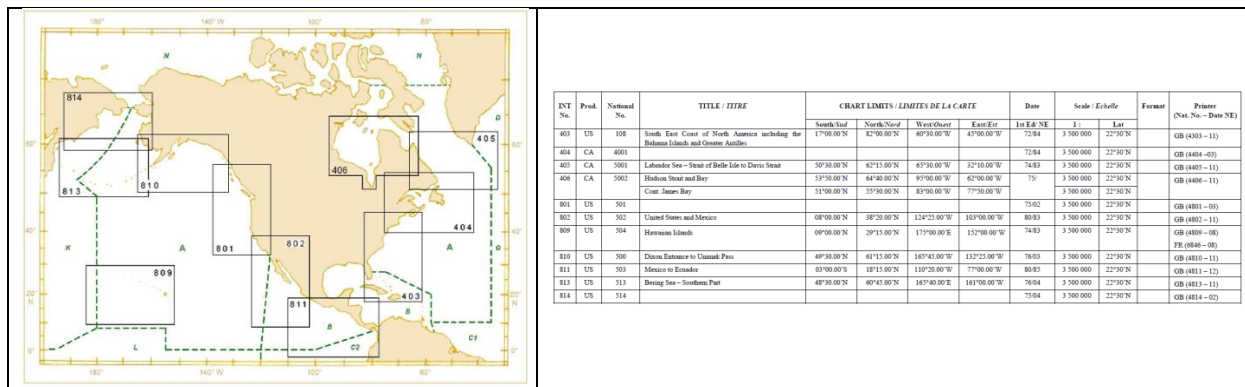


Fig. 1 INT Chart Catalogue of S-11 Part B

With regard to managing the publication status of an ENC catalogue, the IHO gathers information on ENCs published by the Member States, and services an online catalogue system as shown in Fig. 2. Moreover, RHCs as shown in the EAHC example, maintain their own online catalogue system to manage and monitor the regional publication status ENCs.

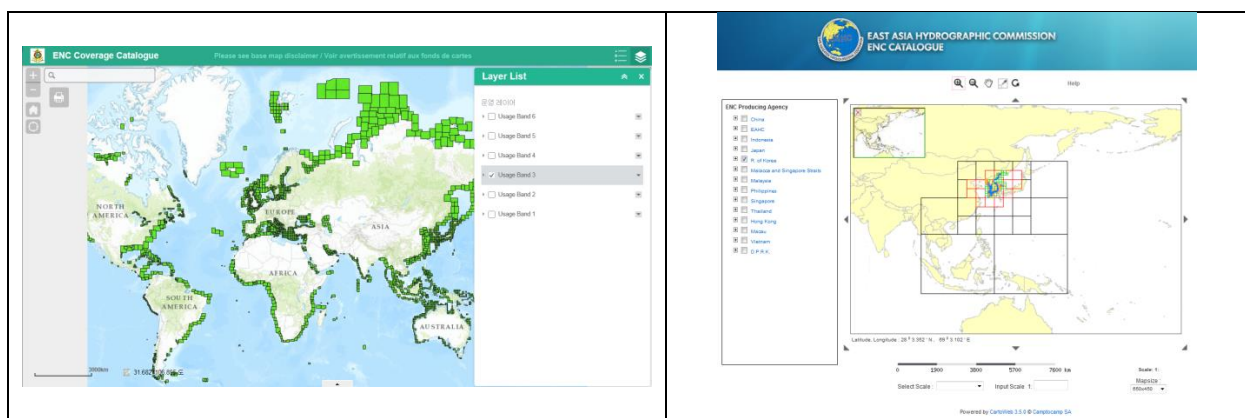


Fig. 2 ENC Online Catalogue of IHO and RHC (EAHC)

As mentioned above, the IHO and the RHCs monitor the publication status of charts and publications, and provide the list or online catalogue systems of nautical products. Yet it is assumed that there are many challenges in exchanging and managing the status information due to the absence of agreed standards.

Nautical chart and publication service in the e-Navigation MSP

The IMO is in the process of implementing the e-Navigation strategy for maritime safety and protection of marine environment, and developed the SIP (Strategy Implementation Plan) document to identify major solutions and plans for e-Navigation. In particular, the SIP contains the MSP (Maritime Service Portfolio), a shore-based e-Navigation service which includes the nautical chart service and nautical publication service.

MSP11 Nautical Chart Service

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

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

Note: FOR REASONS OF ECONOMY, DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

- a Chart and Publication Correction Record Card system can be used to ensure that every publication is properly corrected prior use by mariners.

On top of the chart service and nautical publication service in the MSP, information on the publication status of the catalogue of charts and publications is expected to be one of the core information. Thus, it is required to develop a standard for the catalogue of charts and publications for the MSP service.

Objectives and necessity of a standard for catalogue of charts and publications

Hydrographic offices traditionally publish paper charts, ENCs and nautical publications, and may expand the variety in the future if the S-10X product specifications are announced officially. As hydrographic offices need ways of exchanging lists of charts and nautical publications efficiently between other HOs, RHCs and the IHO, developing a standard to support the demand is required.

Furthermore, as the users of national hydrographic services want to know the latest information on the types of hydrographic services and the publication status of charts and publications, a new standard is needed to meet the demand and it will support relevant e-Navigation services. Therefore, this paper proposes developing an S-10X standard on the catalogue of charts and publications. The objectives of the standard can be defined as below:

- To exchange information on the publication status of catalogue of charts and publications among member states and relevant organizations.
- To provide information on the types of hydrographic services and the publication status of charts and publication.

Example of a Related Research

S-11 Part B is an IHO standard to provide the publication status of INT Charts and is managed by the IHB by obtaining INT Chart information from regional coordinators. However, since the INT Chart information is recorded on paper, there are difficulties in maintaining and managing it with errors and inconsistencies leading to intensive manual labour. To improve this, the IHB and the KHOA agreed to cooperate in developing a web-based INT Chart management system, and the project is ongoing. Fig. 3 shows the database schema for INT Charts of which are in the process of being amended by reflecting detailed requirements. The project group established the INT Chart GIS DB and a quality test is in progress.

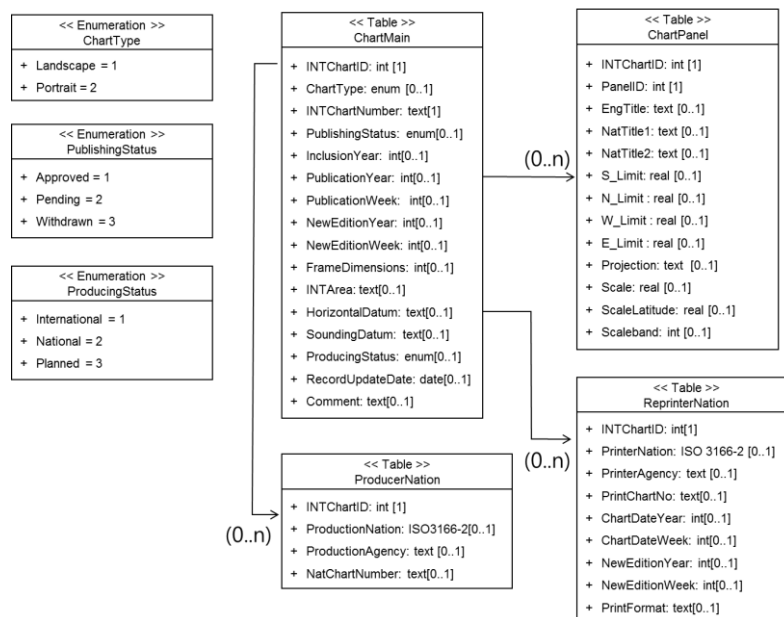


Fig. 3 Database Schema for S-11 Part B INT Charts

As the joint project on S-11 Part B which the KHOA is working on is to do with developing a management and service for INT Charts, the learned research results will be usefully utilized.

Research plan on developing a standard for catalogue of charts and publications

The KHOA is executing an S-100 relevant R&D project. The research team is going to review the needs of a new standard, and is going to develop it using the following work plan:

- Analyse cases and requirements of the catalogue of charts and publications.
- Conduct data modelling on the catalogue of charts and publications/
- Draft a product specification on the catalogue of charts and publications.
- Propose a new S-10X PS to the 7th HSSC meeting (November 2015).
- Relevant working groups to discuss and improve the standard.
- RHCs to apply it and gather feedback.

The KHOA is kindly requesting the NIPWG members to review this proposal and is seeking any comments from them.

Action Required of NIPWG

The NIPWG is invited to:

- a. note the proposal raised by this paper.
- b. provide recommendations on the proposal.