

**13 – INTERNATIONAL****13.3 – IHO****13.3.1 - Summary report of the IHO S-100 WG3**

Note by the Secretariat

**1. SUMMARY**

IHO S-100 WG3 was hosted by Maritime and Port Authority of Singapore (MPA) between April 10 and 13. In attendance were about 60 delegates from over 20 countries and over 10 industry and NGO participants. Representatives from 3 IALA Member States were present; these were Guttorm Tomren (Norwegian Coastal Administration), R. Dave Lewald (US Coast Guard) and Eivind Mong (Canadian Coast Guard).

A large number of papers were discussed as the working group prepares the 4th Edition of S-100. Of particular interest to IALA the following topics are highlighted.

Proposal from IALA to include a new part on Online Communication (S-100WG3-4.7, S-100WG3-4.7.1, S-100WG3-4.7.2 and S-100WG3-4.7.3) was accepted. Comments to the proposal were that the proposal now was clearer than last time and didn't break anything. The Online Communication concept will become Part 14 of S-100 Edition 4.0.0.

A number of proposals focused on various aspects of metadata. These include items such as data format (S-100WG3-4.2.5), extensible metadata (S-100WG3-4.2.6, S-100WG3-4.2.6.1 and S-100WG3-4.2.6.2) and digital signatures (S-100WG3-4.2.4).

The discussion about data format started with a request to remove the option to declare that a dataset used another encoding than the ones defined in S-100. This resulted in a debate about what can be called an S-100 based product specification, and it was highlighted that IALA has a number of specification in the works that will be utilizing XML encoding. There was concern among navigation system developers over the implications the value other had on their systems and after an offline discussion, a compromise was reached that renamed the 'other' value into 'undefined' and added notes that this value meant the encoding is defined locally in a product specification and that this means the product specification is not meant for a navigation system.

The need for extensible metadata was raised, noting that several metadata attributes are mandatory, but only of relevance to a few products. The proposal was to make all S-100 defined metadata attributes optional and further refine these at the product specification level. It was also proposed to permit a specification to extend the metadata according with rules derived from ISO 19115, which is the base standard for the S-100 metadata. In principle the proposal was agreed, but some details need to be worked out.

Jointly with the discussion on making metadata attributes mandatory, a concern was raised about making digital signatures optional. It was proposed that doing so would not be in line with the overall IMO policy on the issue of cybersecurity and data authenticity. It was therefore agreed to retain the metadata dealing with digital signatures as mandatory for S-100 based products.



IHO has undertaken a complete redevelopment of the GI Registry to address issues found during testing of the first version of the Registry (S-100WG3 6.2.1, S-100WG3 6.2.2, S-100WG3 6.2.3, S-100WG3 6.2.4, S-100WG3 6.2.5, S-100WG3-6.7.1). This includes adding new registers for portrayal, feature catalogues and product specifications. Also noted during the testing was that a complete content review is necessary since similar and nearly identical concepts have been registered due to various reasons. All stakeholders are invited to contribute and IALA should consider this request. Moreover, a review of the submission procedure was needed, and a new process is under development along with a new version of S-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry). IHO plans to hold a workshop for stakeholders to address the issues identified. The work on the renewing of the GI Registry is led by the Korean Hydrographic and Oceanographic Administration (KHOA). KHOA reported on the development of the Feature Catalogue Builder (FCB)( S-100WG3-6.7.2), Portrayal Catalogue Builder (PCB)( S-100WG3-6.7.3) and Data Capture and Encoding Guide (DCEG) builder (S-100WG3-6.7.4).

A proposal was presented by the Danish hydrographic office to develop generic validation checks (S-100WG3-6.6) for all S-100-based products. This proposal was accepted, and it was noted that the IALA S-201 AtoN Information product specification draft, among other product specifications include validation checks that can be used for input to develop the generic set of validation checks.

A report on an IHO guidebook for creating product specifications was presented (S-100WG3-5.3.1 and S-100WG3-5.3.2). The guidance consists of two parts; an explanation of content of an S-100 product specification and guidance on how to develop an S-100 product specification which include the logical steps to do so. This guidance should be reviewed by IALA and considered against IALA Guideline 1106.

KHOA reported on their S-100 ECDIS Sea trials conducted in the Port of Busan in November of 2017. They have created test datasets in S-101, S-102, S-104, S-111, S-112, S-124 and S-412 format which were tried during the two-hour sea trial. The research team also involved mariners, who were quizzed during the voyage to investigate the interaction with the system. The increased number of data products puts pressure on the utilization of the screen of navigation systems, and the Korean system therefore utilize a two-screen system to mitigate some of this issue. The full report is found in papers S-100WG3-8.1 and S-100WG3-8.1.1.

All papers submitted for the meeting can be viewed on the S-100WG3 website: [https://www.iho.int/mtg\\_docs/com\\_wg/S-100WG/S-100WG3/S-100WG3\\_Docs.htm](https://www.iho.int/mtg_docs/com_wg/S-100WG/S-100WG3/S-100WG3_Docs.htm)

IALA Secretariat would like to note its appreciation to Guttorm Tomren, R. Dave Lewald and Eivind Mong for participating the meeting on behalf of IALA.

## **2. THE COUNCIL IS REQUESTED TO**

Note the report.