Paper for Consideration by the S-100

IHO Producer Agency Codes Register

Submitted by:	IHB
Executive Summary:	S-57 ENCs make use of Agency codes and Producer codes to uniquely identify ENC Producers and dataset information. The content of ENC producer agencies (S-62) was migrated into the IHO registry in 2010 for use by S-100 Product Specifications. This paper proposes that the current model and content is not sufficiently comprehensive and robust enough to cater for S-100.
Related Documents:	S-57, S-58, S-62, S-63, S-64, S-99, S-100 + associated Product Specifications
Related Projects:	All other S-100 related WG and PTs.

Introduction / Background

The (IHO) Producer Code list was produced to cater for S-57 ENC requirements. It was initially published as Annex A to the S-57 Object catalogue, but was removed and published as a separate (S-62) document when S-57 was frozen in 2000. In 2010 the content of the S-62 document was merged with the private (industry) codes maintained on the Open ECDIS Forum, and this list was integrated into the IHO Registry application as the Producer Codes register. A user interface was developed to update / maintain the register database, and an output function was also developed to generate an S-62 pdf document. The pdf document is made available on the IHO web site. In 2015, the web interface ceased to function properly and changes could only be made by directly editing the database.

The current register database (and S-62 document) includes the following three types of codes see;
1. ISO Country codes – (ISO 3166-1 alpha-2)
2. Producing Agency Code – (format; in S-57 they are A(2) / b12. In S-100 only b12 is allowed)
3. Producer Code - same as (or modified version of 1 above)

The main register table also contains a (numeric) "registerIdentifier" field, which is derived from an enumerated table. The enumerated table contains three records. It is assumed that they are used to differentiate between, official and non-official ENCs.

Value	Description	Assumed meaning
35	IHO Member States (MS)	Official ENC
40	Non-IHO Member States (OS)	Official ENC
50	Private Producer (OO/E)	Non-official ENC

Table 1

An extract from the S-62 pdf document (made available on the IHO website) is shown below. These are from the "IHO Member States" table.

Country Name	Country Code	Agency Name	Agency Codes	
Argentina	AR		1	AR
Australia	AU	Australian Hydrographic Service (AHS)	10	AU
Australia	AU	Australian Hydrographic Service - Navy and Defence	11	AN
Bahrain	BH	Hydrographic Survey Office	20	BH
Bangladesh	BD	Hydrographic Department	660	BD
Belgium	BE	MDK – Afdeling Kust – Division Coast	30	BE
Brazil	BR	Directorate of Hydrography and Navigation (DHN)	40	BR

Table 2

The Agency codes (which are included in the S-57 and S-100 "AGEN" sub-field (of the FOID)) are also grouped into the following three main number domains;

	Group	Producer Agency (AGEN) Number Domain
1	IHO Member States (MS),	1 to 599
2	Other States (OS)	600 to 1599
3	Other Organizations/Entities (Private Producers)	1600 to →

Table 3

The new Registry Application

The KHOA have developed a new Registry application (which does not include the Producer Codes register). As the old Registry application will be shut down soon, the IHB have moved the current registry database onto a new server and developed a new user interface (and PDF generation function). This will be used as an interim solution until this register can be moved into the new KHOA registry application.

It is proposed that the current content and structure of the Producer code register will not cater for future data producer requirements. Furthermore, it appears that there are inconsistencies in the S-100 document relating to producingAgencies information which needs consideration.

Analysis/Discussion/Conclusions

S-100 Edition 2.0.0 identifies the "Registers of IHO producer codes" as one of the three registers in the Registry. In section 1-4.8, it makes reference to "*ENC Producer*" and "*Agency*" code lists as being "*available at specified URI web addresses*". These code lists are also illustrated in figure 1-8 in this section. (Note - it is proposed that the example URIs (URI=http://www.iho.int/producers/enc/ver1_5 and URI=http://www.iho.int/agency/ver1_5) should actually be URLs). There does not appear to be any further reference to these code lists in the S-100 document, nor are they included in the UML model. S-100 Ed 2, section 4A-D (Discovery Metadata and Exchange Catalogues) does include "producingAgency" which has a value type of CI_ResponsibleParty.

Agency Codes are currently also used for data distribution. They are included in the S-63 SERIAL.ENC support files which enable Data Clients to identify catalogue information prior to the actual data being loaded.

It is recommended that the IHO Registry continues to provide a universal mechanism that enables data producers and data providers to identify and authenticate future S-100 products and services. It is proposed that, what is currently included in S-62 is similar to a simple code list described in S-100 section 104.8, however the discovery metadata structure described in Appendix 4A-D (Discovery Metadata for Information Exchange Catalogues) would provide a better mechanism for a the future S-100 multiple product environment. (For backward compatibility purposes, it would be necessary to include the current Producer Code and Producing Agency Code). It is also proposed this this information should be made available as a web resource, providing a full (base) Producer Code dataset set as well as incremental updates datasets, in a common exchange format (e.g. xml).

Recommendations

It is recommended that the WG discuss the issues presented above, with a view to determining what is required for S-100, and how this will be implemented in the new Registry application.
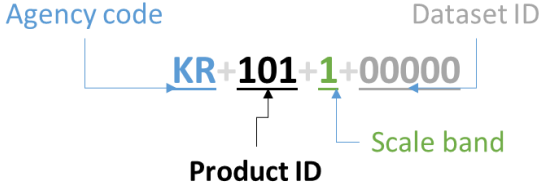
Justificat**ion and Impacts**

The current producer agency code structure is not sufficiently robust to support the needs of future S-100 products and services. The future Producer Code Register should be able to support a more comprehensive producer code data structure, and provide better web access mechanisms.

Further consideration

In S-57 environment, the file name of dataset has an agency code and dataset identification such as AA4C1XMS and KR1F0000 etc. So far, it has not been an issue because ENCs are only used in ECDIS. However in S-100 multiple products, it should be considered to standardise a file name format for their dataset to distinguish with basic information by user, distributor and producer etc.

The following is an example for discussion.

Action Required

The WG are invited to note the proposal and discuss the issues presented therein.