2ⁿᵈ S-100WG MEETING
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Paper for Consideration by the S-100 Working Group (S-100WG)

Guidelines for Proposals to the IHO Geospatial Information Registry and Formation of an IHO GI Registry Project Team

Submitted by:	IHO Secretariat (TSSO).
Executive Summary:	In order to ensure consistency of the content of the IHO Geospatial Information Registry; and provide Proposers, Assessors and the Register Manager(s) with a framework against which to develop and assess proposals, a set of guidelines is required.
Related Documents:	1. IHO Publication S-99 - *Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry*. 2. *S-100 GI Registry – User Guide* (draft).
Related Projects:	Development of the IHO Geospatial Information Registry; S-100 based Product Specification development.

Introduction / Background

The IHO Geospatial Information (GI) Registry became operational in October 2016. From this time the Register Manager (Technical Standards Support Officer (TSSO) at the IHO Secretariat) for the Feature Concept Dictionary (FCD) Register began processing proposals for the inclusion of new items in the Register. It soon became apparent that a set of guidelines is required to ensure consistency of the content of the IHO Geospatial Information Registry; and provide Proposers, Assessors and the Register Manager(s) with a set of criteria against which to develop and assess proposals.
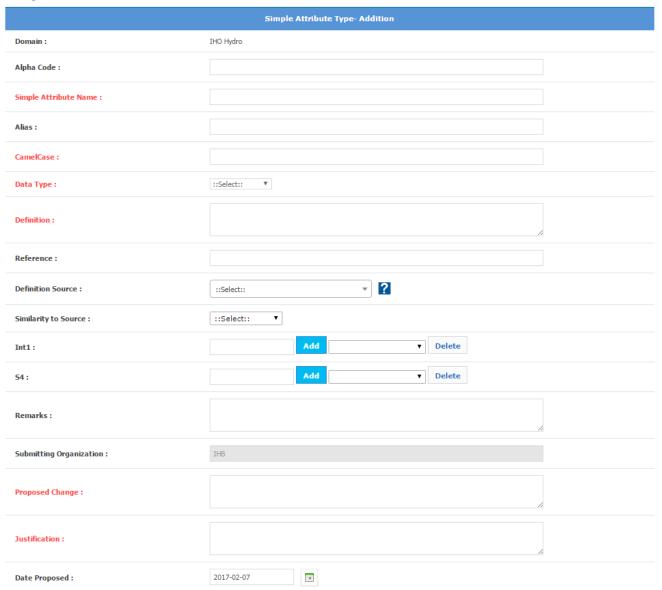
Analysis / Discussion

IHO Publication S-99 - *Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry* provides high level instruction as to the structure, operation and management processes for the IHO GI Registry. Further guidance as to how the structure and processes outlined in S-99 have been implemented and are executed in the IHO GI Registry interface are included in the document *S-100 GI Registry – User Guide* (currently in draft).

The role of Register Manager for the Feature Concept Dictionary (FCD) Register is being performed by the Technical Standards Support Officer (TSSO) of the IHO Secretariat. One of the principle functions of the Register Manager is to conduct an initial assessment of proposals submitted to the Register for suitability to progress through the approval process – essentially acting as the "gatekeeper" for the proposal process. While S-99 and the draft GI Registry User Guide provide an overview for the operation and management of the GI Registry; and operation and navigation of the GI Registry interface, there is no set of guidelines for Submitting Organizations to follow in developing proposals; and no criteria against which the Register Manager can assess submitted proposals for suitability. This has resulted in the inability of the Register Manager to enforce consistency in the Register content; and no criteria or authority on which to assess, and subsequently accept/reject, proposals other than personal opinion.

The image below is an example of the Registry interface proposal form. This example is for the addition of a simple attribute to the IHO Hydro Domain of the FCD Register, and contains all the key fields common to the item types (feature, simple attribute, enumerate, ….) currently defined in the Register:

Proposal : FCD

Simple Attribute Type- Addition	
Domain :	IHO Hydro
Alpha Code :	
Simple Attribute Name :	
Alias :	
CamelCase :	
Data Type :	::Select:: ▼
Definition :	
Reference :	
Definition Source :	::Select:: ▼ [?]
Similarity to Source :	::Select:: ▼
Int1 :	[ ] **Add** [▼] **Delete**
S4 :	[ ] **Add** [▼] **Delete**
Remarks :	
Submitting Organization :	IHB
Proposed Change :	
Justification :	
Date Proposed :	2017-02-07 📅

Issues so far identified for inclusion in a set of guidelines include (but are not limited to):
- Investigation of the existing content of the Register to determine if the same/similar concept already exists;
- Considerations when determining whether to propose as a Codelist or a simple attribute (see S-100WG2-09.6A);
- Standardized formatting (Name, Alias, CamelCase) and syntax;
- Language (e.g. "Oxford English Dictionary");
- Guidance for selecting an appropriate name, camelCase;
- Guidance on appropriate definition (e.g. generic for use in multiple product specifications);
- Use of Reference; Definition Source and Similarity to Source fields (including how to request a new definition source as required);
- Use of the Remarks field;
- Requirements and guidance for populating the Proposed Change and Justification fields.

Other observations made so far that would benefit from a set of guidelines include (but are not limited to):
- More detailed explanation of the roles and responsibilities of the Register Manager, Submitting Organization and Domain Control Body representatives;
- Criteria for consideration/evaluation of applications for becoming a representative of a Submitting Organization or Domain Control Body and the process to be followed in assessing applications;
- Guidance on the order in which "related" proposals are to be submitted (simple attribute/Codelist; then enumerate/Codelist value; then complex attribute (sub-complexes of complexes first); then feature/information type).

The thoughts and observations made by the TSSO since the Registry went "on-line" are included as an

Annex to this paper. It is considered that these can be used as a starting point for the development of a draft set of guidelines. It is therefore recommended that an "IHO GI Registry Project Team" under the S-100WG be established, operating by correspondence, to oversee and contribute to the development of these guidelines. Such a Project Team could also act as a discussion forum within the S-100WG for future issues related to the structure and operation of the IHO GI Registry.

The TSSO is prepared to develop the initial draft of the guidelines for consideration of the Project Team, if established. It is suggested that if approved, these guidelines should be published as an Annex to S-99.

Conclusions

The IHO GI Registry became fully operational in October 2016. There is still much to be done in regard to further developing the structure and consolidating the content of the Registry, and much to be learned by all concerned parties (including the TSSO), which would be facilitated by the development of a set of guidelines for Submitting Organisations, Domain Control Bodies and the Register Manager(s). Such guidelines would contribute to informed and consistent proposal submission and evaluation; and concise and consistent Registry content. The development of such guidelines, and discussion of other current and future issues related to the IHO GI Registry, should be addressed by a dedicated Project Team within the S-100WG.

Recommendations

1. S-100WG to agree to the development of a set of guidelines for Submitting Organizations, Domain Control Bodies and Register Manager(s) so as to standardize and inform as much as possible the "day to day" activities related to the IHO GI Registry.

2. If approved, S-100WG to agree that the guidelines are to be published as an Annex to S-99.

3. S-100WG to approve the establishment of an "IHO GI Registry Project Team" to oversee the development of the guidelines and to act as a "discussion forum" for any future issues related to the development, structure and content of the IHO GI Registry.

Justification and Impacts

The recommendations included in this paper are the result of the observations of the IHO Secretariat (TSSO) since the TSSO position was activated in October 2016, in conjunction with discussions with ADDT, the S-100WG Chair, and the Registry development team of ROK, whose ongoing support in the development of the Registry and the Registry interface is greatly appreciated. At present there is a very small group (TSSO, ADDT, S-100WG Chair and ROK (Yong Baek)) that discuss issues related to the day to day operation of the IHO GI Registry, and it is considered that wider input and investment from IHO member States and Industry through a dedicated Project Team would be beneficial.

If approved, the TSSO will draft an initial version of the guidelines for consideration of the Project Team. The TSSO, acting as the Registry Manager on behalf of the IHO Secretariat, is also prepared to coordinate the activities of the Project Team, which should operate by correspondence.

Action required of S-100WG

The S-100WG is invited to:

   a.   **Note** this paper.

   b.   **Approve** the development of guidelines for the development, submission and evaluation of proposals to the IHO GI Registry, for publication as an Annex to S-99.

   c.   **Approve** the establishment of an "IHO GI Registry Project Team" to operate by correspondence under the S-100WG.

TSSO INPUT TO GUIDELINES FOR SUBMISSION AND EVALUATION OF REGISTER PROPOSALS

- Refer to email to Julia 20/10/16:

G'day Julia.

I have started processing proposals for simple attributes this morning and (surprise surprise! - still getting the hang of this) realised after checking the history that there may be an issue with the first two attributes that have been forwarded to the DCB (you).

The first attribute I did was **category of cargo**, and this was fine. After doing something else and coming back to the Registry after a few minutes the next one I processed was **category of dangerous or hazardous cargo**. I approved this and did not realise until I checked the history a little later on that this attribute is actually a subset of **category of cargo**.

Sticking with my previous statement that I would like to keep things as simple as possible and as generic as possible in the Registry, I do not see why there is a requirement for **category of dangerous or hazardous cargo** when **category of cargo** can be used with an enumerate list restricted to the enumerations for the types of cargo. I am not sure of the modelling the NIPWG is using to apply these concepts - if it is intended to use both attributes bound to a single feature then we have the situation where there will be 2 restricted enumerate lists, one of which applies to a "generic" attribute and the other identifying the subset (those classified as dangerous or hazardous) that is not applicable to the generic in their PS(s). If the attributes are to be used in different features, then I don't see why the generic **category of cargo** can't be used for both with appropriately restricted allowable enumerate lists.

From a Registry perspective, I suppose there is no problem with having both concepts as they are not exactly the same (although as mentioned above one is actually a subset of the other). The better way to actually create a clearer distinction would be to have an attribute **category of non-dangerous cargo** in addition to the other two (**category of cargo** should stay as this should be available for users who do not need to distinguish between dangerous and non-dangerous).

A lot of this is very theoretical and just me "thinking out loud". I need to have these discussions in order to try to establish a set of fundamental ground rules for considering proposals (and for Submitting Organisations when considering whether a proposal is required). Any thoughts you may have would be appreciated. Briana: I would appreciate any thoughts you have on this as well.

Kind Regards,

Jeff.

TSSO Cumulative Observations (so far) for Register Standardization:

- Wherever possible, proposals should be as "generic" as possible to allow the widest possible use.
- Syntax for all fields (capitalized words (particularly for names and definitions) etc.).
- Authoritative "English" – an IHO accepted version of English must be adopted for the Registry. Given that the official IHO "English" is the Oxford English Dictionary, consider that this is the version that should be adopted. (For instance "metre" instead of "meter".)
- Having stated the above, however, the definition for the concept must be taken into account. If the definition is more specific, then the name should also be suitably specific. The more generic should first be considered as to suitability and the more specific name/definition only proposed if not.

- Need a convention for "codes", e.g. just "class 1A" is not good enough – should be "dangerous goods class 1A". 03/11/16: Consider however that such attributes should be of type Codelist.
- Concept name must be submitted as stand-alone, i.e. there must be no assumption of an associated alignment to another concept in the Registry.
- Proposed definitions must by syntactically correct. E.g.: Start with a capital, end with a full stop.
- All proposed definitions must have an authoritative reference. If a reference cannot be selected from the available reference list, then it should be included in the "Definition Source" field and the Registry Manager will include this in the list of References if the proposal is assessed as satisfactory.
- Simple attributes first, then enumerates, complex attributes, features.
- Need to establish rules (and examples) for the categorization of Proposal Type (example – proposals from Joe Phillips for Supersession that only require Clarification).
- When a proposal is rejected at any stage in the process, the rejector must state a reason for the rejection.
- Criteria for creation of a new Domain.
- Codelists: Need criteria for when an item is modelled as an enumeration or a Codelist. For instance, anything that has a general application (or convention) beyond the field of hydrography should be a Codelist, e.g. days of the week; units of measure (Briana proposal); country code; country name; IUCN Code; (various) WMO scales/lists.
- For all clarifications, the Justification (mandatory) field must be populated with the justification for the clarification, otherwise there is no criterion for assessment.
- For Register Manager: Rejected proposals (at both RM and DCB stages) only require correspondence back to the proposer, while proposals marked as "Negotiation" by the DCB require correspondence between the proposer and the DCB member(s).
- Enumerates: Does there need to be a conventional order of enumerates, e.g. good (positive) to bad (negative). Refer to simple attribute Category of Surface Visibility as an example.
- Conventions:
    o Name and definition must be aligned in regard to specificity. A generic name cannot have a definition specific to a particular context or application, and vice versa.
    o Should abbreviations be allowed (e.g. "HO")? Need to take into account the use of the "best understood" term (e.g. SMS); and whether the fact that the abbreviation is expanded in the definition is a factor (note also "UTC").
    o Every effort must be made to provide an appropriate unique, authorized (referenced) definition.
    o Syntax for feature/attribute/enumerate names – e.g., capitalized first letter(s), etc.
    o Suggest the higher the intended "level" in modelling, the more specific the name/definition can be, i.e. enumerates should in the first instance be very generic, attributes a little more specific and features relatively specific. This follows the line that the "context" of the application of a concept can be gained from the modelling (an "inherited" specificity).