Paper for Consideration by TSMAD/DIPWG

Comparisons between the S-101 DCEG and the S-101 XML feature catalogue

Submitted by:	TSMAD Vice Chair
Executive Summary:	This paper highlights a few inconsistencies between the S-101 DCEG and the S-101 Feature Catalogue that is based on the DCEG
Related Documents:	S-101 DCEG
Related Projects:	N/A

Introduction / Background

In April 2014, TSMAD agreed that the S-101 Data Encoding and Classification Guide (DCEG) was stable enough to be baselined and used to create the first iteration of the S-101 Feature Catalogue. As this was a large undertaking to create the S-101 Feature Catalogue, it is only natural that there may be a few inconsistencies between the two items. This paper seeks to highlight the inconsistencies so that they may be resolved in the next iteration of the feature catalogue.

Analysis/Discussion

In order to compare the DCEG to the S-101 Feature Catalogue a rudimentary XSLT stylesheet was created in order to compare if any features/attributes/enumerants are missing from the Feature Catalogue. It should also be noted that not all of the associations are in the current iteration of the feature catalogue as it was decided that only a subset would be included in the first iteration. This paper will also document the remaining associations that need to be added.

S-101 Features	Issue
QualityOfBathymetricData	Feature is missing from the S-101 Feature Catalogue
categoryOfTemporalVariation	Attribute is missing from the S-101 Feature Catalogue

QualityofSurvey
    scale Value Maximum
    scale Value Minimum
	Scale Maximum should read *ScaleValueMaximum* to match DCEG.
	
	Likewise with *ScaleMinimum*.

Pylon/Bridge Support	Geometric Primitive should be point, surface not point, curve
Silo/Tank	DCEG does not list 6: Ore as an allowable attribute for Product under Silo/Tank
Dyke	Complex Attribute *FixedDateRange* missing. Should be between *Condition* and *Height*.
Dredged Area	Encoding value 9 [Diving Prohibited] not in DCEG.
Pipeline, Submarine/on land	Restriction – Encoding value 2 should be 3.
Precautionary Area	Attribute Restriction is missing
Sea-Plane Landing Area	Status – Encoding values should be: 1,2,3,4,5,6,7,8,9,14.
Dumping Ground	Feature is Missing from the S-101 Feature Catalogue
Category of Dumping Ground	Attribute is missing from the S-101 Feature Catalogue
Caution Area	Attribute *Status* missing. Should be between *ReportedDate* and *ScaleMinimum*

S-101 Attributes	Issue
Beacon Shape	Delete value 4: lattice beacon.
Category of Cable	DCEG issue: Add values 7 (ferry) and 8 (telecommunication)

Category of Coastline	Delete values 4 (stony shore), 5 (shingly shore) and 11 (shelly shore).
Category of Fortified Structure	Value 5 should be changed to 'Fortified'.
Category of Gate	Delete value 1 (gate in general).
Category of Land Region	Add value 16 (Moraine).
Category of Marine Farm/Culture	Change value 2 (oysters/mussels farm) to edible bivalves farm.
Category of Obstruction	Not sure if this is a DCEG issue, but Fish Aggregating Device is missing from the DCEG (value 13)
Category of Offshore Platform	Change value 11 to Floating Oil Tank
Category of Road	Delete value 7 (Crossing).
Category of Sea Area	Change value 8 to 'mudflats'
Category of Shoreline Construction	Not sure if this is a DCEG issue versus a register issue - – Value 20 (swimming facility) – renumber as 18
Light Characteristic	Delete values 9 (interrupted quick flashing) and 10 (interrupted very quick flashing)
Attributes Maximum Display Scale and Minimum Display Scale	not listed in DCEG
Nature of Construction	Delete value 9 (Painted).
Quality of Position	This attribute was not found in DCEG
Quality of Sounding Measurement	Delete value 5 (No bottom at value shown)
Survey type	Attribute not in DCEG

In addition to the above discrepancies, the binding of the rest of the associations/aggregations/compositions also needs to happen. As stated earlier, only a handful were put into the FC for the initial version but at some point the remaining will need to be done.

This then raises the issue of defining "classes" to enable better modelling of the associations. While this was raised at a prior TSMAD meeting, during the construction of this iteration of the FC, it was deemed to complicated without additional guidance from TSMAD as to how to define the class under the S-100 construct. So currently, the structure/equipment composition does not exist in the Feature Catalogue.

Conclusions
KHOA has performed a monumental feat of creating the first iteration of the S-101 Feature Catalogue and their hard work should be commended by TSMAD. The inconsistencies documented above should be investigated to see if the issue is with the Feature Catalogue, the values in the test registry, or the DCEG.

In addition, TSMAD should further discuss the use of "classes" within the Feature Catalogue and provide guidance on how they are implemented from S-100.

Action Required of TSMAD/DIPWG
The TSMAD/DIPWG is invited to:
    a.   note the inconsistences found between the S-101 DCEG and FC

b. further discuss the use of "classes" for associations in the Feature Catalogue and provide a recommendation to the S-100 WG.

c. commend KHOA on their work regarding the S-101 Feature Catalogue and Australia for leading the effort on the S-101 DCEG.