TSMAD 25 –4.5.11

Paper for Consideration by TSMAD

S-57 to S-101 convertors

Submitted by:	S-101 DCEG sub group
Executive Summary:	This paper is intended to promote discussion amongst TSMAD members to decide what the minimum mappings will be for maximum display scale and minimum display scale when converting S-57 data to S-101 data
Related Documents:	S-101 product specification
Related Projects:	S-101

Introduction / Background

The S-101 Data Classification and Encoding Guide (DCEG) sub-working group is responsible for creating the initial draft of the S-101 DCEG for TSMAD approval. During the last sub-working group meeting prior to TSMAD24, one of the discussion items was how will the S-57 to S-101 convertor deal with assigning both the maximum display scale and minimum display scale values for and S-101 dataset when there are no direct equivalents in S-57.

Analysis/Discussion

During its last meeting the DCEG sub working group briefly discussed how the S-57 to S-101 convertor would appropriately map from the existing S-57 values of CSCL and the meta feature M_CSCL CSCALE value to the new S-101 feature dataCoverage and its attributes.

The dataCoverage feature holds two values that define a scale range – minimum and maximum display scale, whereas S-57 only held one scale value. Furthermore, the values of minimum and maximum display scale are limited to a fixed set of scales that are defined in S-101.

It is proposed that a standard mapping be provided to automatically convert the S-57 values to equivalent S-101 values. An initial table is provided for consideration and discussion:

S-57 Scale Ranges (M_CSCL and CSCL)	S-101 Maximum Display Scale	S-101 Minimum Display Scale
0 - 4,000	0	12,000
4,001 - 8,000	4,000	22,000
8,001 - 12,000	8,000	45,000
12,001 - 45,000	12,000	90,000
45,001 - 90,000	22,000	180,000
90,001 - 180,000	45,000	350,000
180,001 - 350,000	90,000	700,000
350,001 - 700,000	180,000	1,500,000
700,001 - 1,500,000	350,000	3,000,000
1,500,001 - 3,000,000	700,000	3,000,000
3,000,001 - ??????	1,500,000	3,000,000

In addition, there is a possibility of creating an override XML configuration file, if the hydrographic offices would like to customize the range between the maximum display scale and the minimum display scale. The values would still be constrained by those that are defined in S-101.

Another consideration, is that the lower end of the display scale range is somewhat open ended and perhaps TSMAD should consider adding additional values to make the range of values more specific. TSMAD should also consider adding another value of 10,000,000 to take in account small scale overview data.

Conclusions

The mapping table presented in the Analysis section of this paper only represents a first cut at mapping S-57 to S-101 and will need further refinement, testing and discussion. Since when S-101 is eventually published as an official IHO standard, the convertor will provide for a full S-101 dataset until that time that HO's have moved to full S-101 production. Because of this reality, TSMAD needs to provide for a way to appropriately map S-57 to S-101 data. While most mappings are fairly straightforward, the mapping from S-57 CSCL to S-101 dataCoverage does introduce some complexities, and if the goal is for improved standardization then TSMAD must provide an approved mapping for this feature.

Action Required of TSMAD

The TSMAD is invited to:

a. note the need for a S-57 to S-101 mapping for dataCoverage
b. note that the S-101 display scale may need some additional values to reduce ambuigity
c. discuss and refine the proposed mappings for the convertor