

**24th Transfer Standard Maintenance and Applications
Development (TSMAD) Working Group Meeting
IHB, Monaco (7-11 May 2012)
Held in conjunction with the 4th DIPWG meeting.**



Minutes

Chairman: Barrie Greenslade (UKHO)

Vice Chairman: Julia Powell (NOAA)

Secretary: Anthony Pharaoh (IHB)

Annexes:

Annex A – List of Documents

Annex B – Agenda

Annex C – List of Participants

Annex D – List of Action Items from the meeting.

Annex E - List of Action Items for S-101 review work.

1. Opening and Administrative Arrangements

Colby Harmon thanked members for attending the meeting and asked Director Robert Ward to open the meeting. Captain Ward welcomed members to the meeting and highlighted the importance of the work being undertaken by the combined Working Groups. He highlighted the relevance of the standards produced by the Working Groups for other international organizations that will use the IHO S-100 standard and the IHO registry for their initiatives such as the e-navigation project.

1.1 Participant and Apologies.

The chairman welcomed all those new members who were attending the meeting for the first time and noted that apologies had been received from Denise LaDue.

2. Approval of the Agenda.

The combined TSMAD24 / DIPWG4 agenda (document 02A rev8) was unanimously approved by the meeting.

3.A Approval of the TSMAD 23 Minutes

Minutes of the 23rd TSMAD meeting which took place in Wellington, New Zealand (15 to 20 January 2012) were reviewed and approved without comment.

3.B. Status of Actions from the 23rd TSMAD WG meeting.

No	Agenda	Action		Status
1	3.1	Contact OSL about getting Polar dataset. HB to provide BG with the Seven Cs test data set.	BG/HB	Ongoing
2	4.2.5	TSMAD members are encouraged to provide national / regional guidance on the preparation and maintenance of small / medium scale ENC schemes. Submissions to be sent to JW.	All	Ongoing

3	4.2.5	Review the S-101 Encoding Guide to ensure that "GNSS" has been used in place of GPS where required.	JW	Done
4	4.3.3	Identify selected TSMAD members and request them to test the feature catalogue builder. BG reported – ongoing waiting for the builder to be completed and available.	TR	Ongoing - waiting for the builder to be completed and available
5	4.3.6	Submit additional metadata items for inclusion in S-100 using the online submission form.	JP	Done
6	4.4	Submit proposal concerning the production of a magnetic variation product/dataset to HSSC for addition to the TSMAD work program.	BG	Ongoing - needs to be written up for a proposal to HSSC
7	4.4	New models for light and textual information to be sent to TSMAD members for finalization.	TR	Done see papers 9.9A 10.10A
9	4.5.2	Develop the necessary feature constructs and text for the new DataCoverage feature to replace M_CSCL.	TR	Done
10	4.5.6	Business rule need to be included in S-101 to ensure that data producers do not include redundant or duplicate support files (as per paper 23-4.5.6).	JP	Done
11	4.5.8	Review all the UML diagrams in the S-101 document, identify missing diagrams and review existing diagrams for accuracy. Any duplicate diagrams must also be harmonized.	TR	Done – subject to comments
12	4.5.8	Remove the geometry model from S-101 and include a reference to the appropriate S-100 section.	JP	Done
13	4.5.9	Review the attributes and enumerated values in the S-101 bridges proposal TSMAD23 4.5.9.	TR	Done
14	4.5.10	Produce the model and accompanying documentation for S-101 text placement.	TR	Done. (See paper 10.10A)
15	4.5.11	Set up a new Google discussion group and use this forum to define what problems need to be resolved using the SI/SD proposal. There is also need to identify what problems are likely to be encountered in implementing the SI/SD proposal. Report back to TSMAD 24. (No longer required – will be dealt with the test beds)	TR/LP/LL /JP	Closed
16	4.5.12	TSMAD to conduct a formal impact study on S-101 in conformance with the requirements of Resolution 2/2007 taking into account paper TSMAD23-4.5.12. (Google correspondence group to be set up and led by LL). First stage completed.	LL/JP/BG /EM/LP	Closed
17	4.5.13	TSMAD members are to review the proposals outlined in the data quality paper (TSMAD 23 4.5.13) and report any comments to the secretary of the DQWG - EM. First stage completed – Done	All	Done
18	4.5.13	Create a cross mapping of old M_QUAL attributes to the new attributes defined in the DQWG paper (TSMAD 23 4.5.13B). – Mapping has been drafted – awaiting comment from DQWG – ongoing.	EM	Ongoing
19	4.5.13	Register the new features / attributes, proposed by DQWG. Text describing the new DGWG content must be included in the S-101 and DCEG documents. Also include the (DQ_conformance elements) in S-101 and make reference to S-58.	JP/TR	Ongoing
20	4.7.1	Prepare a new edition of S-58 based on the HSSC3 decision. Including the following; <ul style="list-style-type: none"> Restructuring the document. 	UKHO	Ongoing

		<ul style="list-style-type: none"> IC-ENC to send the standard list of IC-ENC / Primar error / warning classification document to the S-58 sub WG. Produce new S-58 test data sets for use in testing validation SW. 	RF	Ongoing
			UKHO	Ongoing
21	4.8.2	Produce document showing examples of the misuse of text and picture files and providing advice on how they should be encoded and included in ENCs.	RF/JW	Ongoing
22	4.8.2	Produce an EB and FAQ regarding the inclusion and encoding of picture and text files in the UOC and DCEG.	JW/RF	Ongoing
23	4.9.1	Produce EB and FAQ providing guidance on the encoding of ACHARE	JW /TR	Done
24	4.9.1	Produce an EB to address the inconsistent encoding of magnetic variation in S-57 ENCs.	JW / TR	Done
25	4.9.1	Produce EB and FAQ providing guidance on the encoding of EXPSOU.	JW /TR	Done
26	4.9.1	Produce EB providing guidance on the encoding of shoal areas that have been identified by remote sensing methods.	JW/TR	Done
27	4.9.1	Complete the review of the FAQ and EB pages on the IHO web site and circulate to the EB sub working group for review.	JW	Done
28	5.1.2	Include proposed changes for encoding QUASOU in the next editions of the UOC and S-58.	JW	Done
29	5.1.3	Produce an EB providing guidance on encoding mangrove area.	JW	Done
30	INF 1A	Produce EB for encoding M_COVR only as the MBR	JW	Done

4. Matters Arising from DIPWG-3 (Seoul)

See DIPWG Minutes

5. Matters Arising from HSSC-3 (Monaco)

5.A. HSSC Actions for TSMAD

BG noted that because TSMAD has already met earlier in the year, these actions had been discussed and were being dealt with.

6. Reports of Activities of Other Working Groups

6.1.A SNPWG

EM reported that the SNPWG had its previous meeting in February 2012. Most of the work during this meeting was focused on producing the Marine Protected Areas product specification. The WG has also done some work on how best to portrayal MPA information as an overlay in ECDIS (paper 9.10A) and requests feedback from the TSMAD and DIPWG working groups. The existing SNPWG Chairman David Acland did not stand for re-election at the last meeting, and he was replaced by Mr. Jens SCHROEDER-FUERSTENBERG. (Germany). The position of Vice-Chair was filled by Mr. Thomas Loeper.

6.2.A CSPCWG

JW reported that not much of relevance to report on the activities of this group since the last meeting, other than the ongoing review of S-4 Part 4. The next meeting will probably focus on concluding the work on S-4 Section B-300, with the final part of B-300 (B-340 to B-390) currently going through its first

round review. Completion of the review of Section B-300 will finish the CSPCWG major review of S-4 Part B. There is an on-going issue concerning the revised definitions for the terms “height”, “elevation” and “altitude” for the IHO Hydrographic Dictionary. The outcome will depend on the result of the IHO MS Circular Letter vote.

There may be a need for some ENC encoding guidance as a result of issues arising from the review of B-300.

6.3.A DQWG

EM reported that the WG had not met since the last TSMAD meeting. DQWG has concluded a study on survey quality elements and UKHO had provided advice on mapping ISO 19157 elements to hydrographic quality indicators. JP proposed to attend the next DQWG meeting and present a paper on TSMAD discussions on data quality particularly the issues raised by the DCEG Sub-WG. TR and JW offered to review the paper. The next meeting is scheduled to take place in July 2012.

6.4.A TWLWG

TR reported that the WG were meeting in South Africa during the week. They are doing some work on producing a digital tides information product specification, and may need some assistance from TSMAD. The Chairman noted that they will need to formally request help.

7. Activities of Other Organizations

7.1.A IALA

TR reported that the IHO had had two meetings with IALA, since the last TSMAD meeting. A meeting on IALA's policy towards using the IHO Registry and the development of a product specification for AIS binary messaging was held at the IHB. A meeting was also held in Singapore at which presentations on the S-57 to S-100 converter and S-100 were provided. Feedback from the first meeting was that the S-99 publication was very confusing and it was recommended that a new edition should be produced.

7.2.A ISO

TP reported that an MoU concerning strengthening the existing cooperation between the IHO and ISO had been signed. The MoU makes provision for ISO/TC 211 and the IHO to harmonize their respective work programs and achieve mutual benefit by sharing resources.

The following new standards or existing standards under revision should be noted;

- WI 19103 Geographic information - Conceptual Schema Language (Revision of ISO/TS 19103:2005)
- WI 19119 Geographic information - Services (Revision of ISO/TS 19119:2005)
- WI ISO 19117:2005 Geographic information - Portrayal (Revision of ISO 19117:2005)
- WI 19139-2 Geographic information - Metadata - XML Schema Implementation - Part 2 : Extensions for imagery and gridded data
- WI 19110 Geographic information - Methodology for feature cataloguing (Revision of ISO 19110:2005)
- WI 19115-1 Geographic information - Metadata - Part 1: Fundamentals (Revision of ISO 19115:2003)
- WI 19109 Geographic information - Rules for application schema (Revision of ISO 19109:2005)
- WI 19135-1 Geographic information - Procedures for item registration - Part 1: xxx (Revision of ISO 19135:2005)
- WI 19135-2 Geographic information - Procedures for item registration - Part 2: XML Schema Implementation

- WI 19157 Geographic information - Data Quality
- WI 19158 Geographic information - Quality assurance of data supply

EV proposed that TSMAD members should make note of who their national representatives to ISO are, so that they can influence ISO standards development where required.

7.3.A IEC

No report provided. BG suggested that there was no requirement for a report from IEC, but there will be papers presented during the week that will have a possible impact on IEC. It was decided to convene a break-out group to discuss the re-structuring of ISO and IEC documents that relate to ECDIS and IHO Standards.

7.4A ETSI

VS provided a presentation on the work carried out by the Expert Group on ICE information and demonstrated how ice data can be presented in ECDIS. He presented the ETSI feature catalogue and presentation library. He reported that there was a need for discussion about integrating ice layers with ENCs and also a requirement for TSMAD members to provide assistance with the development of their product specifications. There is also a requirement to get a better understanding of how MIO will be implemented within ECDIS. He noted that the performance standards only state that additional supplementary layers can be added.

8. Continuing Portrayal Topics

- 8.1.A Paper-Chart/Simplified Symbols Consolidation. (See DIPWG Minutes)
- 8.2.A US Chart 1 with ECDIS Symbology (See DIPWG Minutes)
- 8.3.A Cursor Enquiry & Pick Reports (See DIPWG Minutes)
- 8.4.A SNPWG – Marine Protected Area (MPA) Portrayal – (See DIPWG Minutes)

9. New Portrayal Topics & S-100/101 Portrayal

- 9.1.A.0 S-100 Portrayal Development. (See DIPWG Minutes)
- 9.1.A Portrayal Model and XML Scheme. (See DIPWG Minutes)
- 9.1.B New Direction for S-100 Portrayal. (See DIPWG Minutes)
- 9.1.C Portrayal Proposal Review Discussion. (See DIPWG Minutes)
- 9.2.A Portrayal Register. (See DIPWG Minutes)
- 9.3.A Portrayal Catalogue Builder. (See DIPWG Minutes)
- 9.4.A S-101 Portrayal Documentation - Business Rules. (See DIPWG Minutes)
- 9.5.A Display of Isolated Dangers in Shallow Waters. (See DIPWG Minutes)
- 9.6.A New PresLib (v 3.5). (See DIPWG Minutes)
- 9.7.A Truncation of Light Period (SIGPER) Values. (See DIPWG Minutes)
- 9.8.A Clarifications and Changes for IHO ECDIS Chart 1. (See DIPWG Minutes)
- 9.9.A Safety Depth Contour & Safety Depth. (See DIPWG Minutes)

9.9.B Setting Safety Depth and Safety Contours in ECDIS. (See DIPWG Minutes)

10. S-101 Development Topic

10.1.A S-101 Comments Phase 3.

JP reported on the comments and editorial observations that had been received on the S-101 Product Specification Phase 3 (included as document 10.1.B). See master comment sheet at http://www.iho.int/mtg_docs/com_wg/TSMAD/TSMAD25/S-101_Comment_Form_Phase%203_MasterResponces.pdf for a list of decisions made at the meeting.

10.1.B S-101 Draft Product Specification Phase 3

JP reported that, following discussion at the TSMAD 23 meeting on the Scale Independent (SI) and Scale Dependent (SD) concept, it was agreed that further testing would be needed before a final decision on its inclusion in S-101 could be made. She noted that paper 10.2A outlined some of the issues relating to SI/SD data and noted that Annex A contained a list of feature classes that should be used for Scale Independent features. HE proposed that Annex A should be just a guideline and it should be for data producers to determine what features they wish to included in SI and SD datasets. It was agreed that as a business rule, it should not matter what feature types go in SD or SI datasets, as long as all features are included in both.

Should there be a different naming convention for SI datasets? HA proposed that minimal metadata should be encoded in the dataset name and information about the nature of the dataset should be included in the dataset metadata - perhaps include a number system to differentiate between the datasets e.g. SD = 1 and SI = 2. The metadata element layerID (defined in the S-101 discovery metadata) could be used for describing the type of dataset (SI or SD). BG noted that the ISO metadata standard 19115, made provision for documentation of dataset series, and this needs further investigation. HB noted that there also needs to be business rules. For example; if two features share the same spatial extent they must be in the same dataset. HA noted that a disadvantage of the SI / SD concept is that it is not possible to have relationships between objects in SI and SD datasets. Scale minimum and scale maximum attributes should be optional for SI features. (*See action item 1*)

10.3.A S-101 Impact Study Survey

LL reported that at the TSMAD 23 meeting, France submitted a paper proposing that an impact study on the ramifications of S-101 should be carried out. In response to the resulting action item, a draft survey was prepared which is presented as Annex A - document 10.3.B. An updated S-101 Information Paper (see Annex B - document 10.3C) was also prepared to assist recipients of the survey to get a better understanding of the survey questions. (*See action item 2*)

10.3.B S-101 Impact Questions (April 16-2012)

LL noted that the list of questions presented in paper 10.3B, were preceded by some introductory text that put the list of questions into context, and were also included in an S-101 information paper (10.3C) in order to put the questions into context.

10.3.C S-101 Information Paper [Louwart]

JP reported on the Information paper that provided some background about S-57 and S-101, and highlighted some of the differences between S-57 and S-101 ENCs. It also highlighted some issues relating to type approval and the need to test S-101 ENCs and ECDIS.

10.4.A S-101 Test Plan and Requirements [Powell]

JP proposed that TSMAD and DIPWG should jointly develop an S-101 test plan to test the functionality of S-101. The test plan should be included in a document describing the type of tests to be undertaken together with an execution plan for 2013. She noted that this may require contractor resources for some of the tasks. HP commented that all converted ENC data must be tested in all OEM systems.

The meeting noted the draft test plan and it was agreed that there needs to be clear documentation on the structure of the tests and more clarity on what components need to be tested.

10.5.A S-101 – Timelines and Project Plan [Powell]

JP reported on the various phases of S-101 implementation. Phase 1 which is equivalent to S-57, but uses complex attributes, is complete. Phase 2 which introduces enhanced packaging and data loading mechanisms, and adds functionality for new file formats and functionality to update text files is complete. Phase 3 which extends the data modal to include additional complex attributes, information types, and cartographic attributes is due to be complete by May 2012. Phase 4 must include all functionality required for S-101 ENC data and should include a fully developed data converter.

Completion of the DCEG review is well under way and the ENC product specification is about 90% complete although there is still much work to be done on the portrayal section.

Robert Ward proposed that TSMAD and DIPWG should take advantage of the various upcoming meetings to demonstrate and test the work carried out to date. BG noted that users (mariners) should also be involved in the test procedures as far as possible.

10.6.A S-101 Impacts to IEC 61174 and IMO PS [Powell]

JP reported that TSMADWG and DIPWG need to consider the impact that the introduction of S-101 data may have on non IHO standards such as the IMO ECDIS performance standards and the IEC Standards (IEC 61174 - Operational and performance requirement, methods of testing). She noted that there should be minimal impact for IMO document MSC.232(82) as most references to IHO standards are only included in an annex to the document. The only change required would be to change S-57 with S-101 in the appropriate places.

The introduction of S-101 will have a larger impact for the IEC 61174 standard as this document currently references S-52 in at least 87 instances and references type approval tests for each of these clauses.

Robert Ward noted that the IMO performance standard drives the testing standard, however the work on the test standard could begin sooner provided that the product specification is stable. IMO won't adopt a standard until it has been thoroughly tested. A strategy subgroup was tasked to discuss this further.

Report back from the strategy subgroup. JP reported that the intention of the discussion group was to examine what the implications for implementing S-101 would be. It was also necessary to examine what would be required to include new tests for S-101 data in IEC 6117. It was concluded that S-64 could be expanded to cater for this and it should also include functional tests. The IMO performance standard had references to footnotes that should not have a large impact. DB noted that the IEC is due to produce a revised version of 61174 by 2015, and TSMAD should attempt to include all new S-101 required text for the new edition.

10.7.A S-101 DCEG Report [Wooton]

JW reported on the status of the draft S-101 Data Classification and Encoding Guide which will be included as Appendix A to the S-101 document. He noted that the DCEG sub Working Group had had

a very fruitful meeting during the preceding week and had discussed a number of important items. He provided a brief review of the document noting some of the significant changes to encoding rules and the inclusion of mandatory “must” and optional “should” and allowable “may” clauses. It is anticipated that the group will require one more meeting to complete the document.

The outcomes from the DCEG Meeting are as follows:

- Re-format of document – the revised format was agreed at TSMAD23.
- Replacement of S-57 acronyms with feature and attribute names. JW questioned whether it would be more appropriate to use camelCase, but the meeting agreed to use the full name. The meeting also agreed with the syntax of U/L case for features and all lower case for attributes.
- Data Coverage feature: Following a discussion on how the population of Minimum Display Scale could be done through the S-57 to S-101 converter it was agreed that this needs to be investigated as part of the test beds exercise.
- Data quality: Should CATZOC Bathymetric Data be retained. The sub-WG proposed that some practical examples showing how the proposed quality model would benefit the mariner using an ECDIS. It was concluded that JP is to include this in the paper for the next DQWG meeting (July 2012 in Silver Spring).
- Update information feature: It was agreed that much of the implementation of this feature in ENC datasets would be done automatically by the production software.
- Local magnetic anomaly: The proposed new complex attribute structure was agreed.
- New Span feature: The proposal was agreed.
- Distance mark: The revised modelling of the complex attribute for encoding the measured distance value was agreed. There is a need to ensure that different unit of measure can be catered for.
- Piles: Following discussion as to why curve and surface should be allowable primitives for piles, it was suggested that rows of piles and piling could be separate features in S-101. Further investigation is required.
- Current: How will curves and surfaces work in relation to current features (in terms of the attribute “orientation” being mandatory). It was proposed that in such cases a general direction would be populated or the attribute populated with an empty (null) value. Further guidance needs to be included in the DCEG.
- Skin of the earth: As rivers, lakes, dock areas and lock basins were not part of base display in ECDIS, they could be turned off, resulting in a “hole” in the data? RF proposed that such features being navigable on larger compilation scale ENCs can disappear at smaller scales. It was agreed that further investigation required (possibly during the test beds phase).
- Tidal stream panel values: The new model was accepted by the meeting.
- No bottom found: After some discussion the proposed new feature was agreed. Issue of how this will work in terms of Quality of Bathymetric Data feature will need further investigation.
- Minimal depiction areas: Following discussion about what constitutes an “area of minimal depiction”, it was agreed that such a feature would need to have very specific rules in the DCEG in terms of its implementation.
- Seabed areas: There was general acceptance of the new complex attribute modelling. In regard to whether the surface layer sub-attribute is required, there were arguments both for and against and it was concluded that further research was required.
- Offshore wind turbines: There was some discussion of the merits of having a single feature for both offshore and onshore wind turbines and having a dedicated feature for only offshore features and retaining onshore features as Landmarks. The concept was agreed in principle.
- Foul ground: Agreed.
- Pilotage district: Agreed.
- VTS area: Agreed as proposed at TSMAD23.

- Lights: The re-modelling of the generic S-57 LIGHTS object class into five distinct light features in S-101 was accepted (refer agenda item 10.9A). It was decided that further research is required regarding the removal of some of the attribution from fog detector and air obstruction lights. The new model for topmarks as complex attribute for buoy and beacon structures was accepted.
- Date ranges: Accepted in principle as separate complex attributes for fixed, periodic and survey date ranges. It was decided that further discussion was required in regard to Jeppeson proposals regarding date ranges.
- SORDAT and SORIND: It was decided that further investigation was required into all current usages for these attributes to ensure that information currently encoded using these attributes is not lost through the removal of these attributes in S-101.
- Textual attributes: The revised model was agreed in general however it was noted that further investigation would be required.
- RECIND and RECDAT: Approved to remove.

10.8.A Attributes to Simplify Portrayal in S-101 [Richardson]

TR proposed that the complexity of certain S-52 Conditional Symbology Procedures could be simplified by including additional attributes in S-101 ENC. He noted that this would ensure that the portrayal standards would be easier to implement and it would help to ensure that ENC data would be displayed correctly in ECDIS.

The meeting noted the proposal and agreed that there were instances where attributes could be used to simplify portrayal. This would have an impact on S-101 portrayal which will have to be taken into account. HP supported the simplification of Conditional Symbolization Procedures by including portrayal attributes were appropriate.

10.9.A Lights in S-101 [Richardson]

TR reported that following feedback received on a paper that was presented to TSMAD23 proposing a revised structure for lights (see TSMAD 23 action item 7). The new proposed structure is intended to avoid the need to capture multiple lights features for sectored lights, avoid the need for complex conditional mandatory rules for encoding and to simplify portrayal rules. He proposed that this new model had the potential to deliver substantial improvements over the existing (S-57) model. The meeting discussed and approved the proposed structure for S-101.

10.10.A Text Placement in S-101 [Richardson]

TR reminded the meeting of the paper and discussion concerning text placement that took place at the TSMAD 23 meeting which resulted in an action item for him to provide further study on text placement in S-101. Following discussion it was agreed to use a feature type that would have the position of the text anchor point encoded as its geometry. An attribute will be used to control the rotation and scaling of text items.

11. General TSMAD Topics

11.1.A S-58 Rewrite [Richardson]

TR reported that TSMAD has been assigned an action by HSSC to prepare a new edition of S-58. The new edition should include a restructuring of the document and should incorporate the standard error/warning text used by IC-ENC and PRIMAR. This should also include the production of a new S-58 test data set.

The restructure syntax including spatial operators as presented in meeting document 11.1B were agreed by the meeting. The proposed rewording for S-58 (section 2.2 - ENC Product Specification) was accepted by the meeting in principle and TSMAD members were invited to provide any additional comments to TR.

11.2.A S-64 – Additional Tests

TR reported that following work carried out to produce a check dataset to identify anomalies in the display in ECDIS systems, HSSC 3 endorsed a TSMAD proposal to expand S-64 so as to improve its usefulness for both OEMs and type approval authorities. GB reported that the test from the check data set should be included in the new TDS.

TM noted that following discussion with OEMs and other stakeholders concerning ECDIS anomalies, it has become clear that a better set of ENC test data (S-64) are required. Some of the issues identified by OEMs included comments about difficulties relating to its use i.e. it is necessary to switch between different datasets and graphic plots and this makes their use cumbersome. There is also a need for additional tests to improved checks for display and alarm functionality. S-64 is also constrained by the specific checks listed in IEC 61174 and any revision should expand S-64 in order to support a wider range of tests.

HP noted that he strongly supported the proposal. It was decided to form a sub-working group of relevant stakeholders to undertake the production of a new edition of S-64. (*See action item 3*)

11.3.A S-102 Comments for Next Edition [Powell]

JP noted that comments had been received from the UNH Joint Hydrographic Centre that needed to be taken into consideration for the next edition of the S-102 standard. WL informed the meeting that there will be an Open Navigational Service (ONS) working group meeting during the following week and he would raise the issues identified at this meeting (*see action item 4*). He noted that it was not clear how S-102 would be integrated into an ECDIS and this needs further consideration. EM proposed that there was a WG implementing gridded data for the St Lawrence Seaway and TSMAD should request information on how they are integrating gridded data in ECDIS.

11.4.A GML Encoding in S-100[Richardson]

TR reported that, although S-100 makes provision for multiple encodings, only one (ISO 8211) has been included. Currently a number of Product Specifications are in development which may use GML and this encoding format should be added. BG noted that there were a number of GML profiles (e.g. simple features) and the full ISO 19136 may be more comprehensive that required. Further study is required and should be presented to the next meeting (*see action item 5*).

11.5.A Encoding Features in their True Position

No paper submitted. TR proposed that this item should be dealt with under item 11.7.

11.6.A Change Proposal for S-100 GI Registry and S-99 [Greenslade]

BG reported that as a result of workshops with IALA regarding the use of the IHO registry, it had been noted that the concept of having main and supplementary registers was confusing, and it was therefore proposed to remove this concept from the S-99 publication. The meeting agreed that the changes can't be made as clarifications, and the production of a new edition is required.

It was also agreed that the FCD should be expanded to include a "preliminary" status for entries so as to make provision for testing entries before they are finally accepted for inclusion in the register. (*See action item 6*)

11.7.A ENC Encoding Bulletins [Wootton]

JW noted that there were a number of discussions and Actions recorded from TSMAD23 (January 2012) that required the development of new or revised Encoding Bulletins and Frequently Asked Questions. These were included at Annex A of the paper 11.7A.

- EBXX - UOC Clause 9.2.1 Anchorage Areas - approved.
- EBXX - UOC Clauses 6.1.2 Rocks which may cover; 6.2.1 Wrecks; and 6.2.2 Obstructions, foul areas and foul ground - approved.
- EBXX - UOC Clause 3.1.1 Magnetic variation – approved the wording but the reference to obtaining magnetic variation data must be added before it can be published.
- EBXX - UOC Clause 5.8 Areas with inadequate depth information - approved.
- EBXX - UOC Section 2 Cartographic framework. Approved however it was decided that this needed further investigation. DIPWIG to get feedback from mariners concerning offsetting features for clarity of presentation.
- EBXX - UOC Clause 4.7.11 Vegetation. Approved, but also need to be considered for an update to fix this in the presentation library i.e. it should be possible to display mangroves in standard mode.
- EBXX - UOC Clause 2.8.1 Wide blank area - approved.

(See action item 7)

11.7.B ENC EB and FAQ Web Pages Revisions [Wootton]

JW reported that following TSMAD 23 discussions to revise the Encoding Bulletins and FAQ pages on the IHO web site in order to bring them up to date for the S-57 UOC, the Sub WG had prepared a draft version of revised Bulletins and FAQ (included at Annex A) for approval by the meeting.

The revised introduction text, index and revised EB and FAQ sections were approved but it was decided to remove question 8 of the FAQ section. *(See action item 8)*

11.8.A Proposal to Establish S-10y Product Spec. for Navigationally Significant Surface Currents [Patterson]

LP presented the paper proposing the development of a surface current product specification that could be implemented (in accordance with S-100 Part 8) as a gridded coverage dataset. JP proposed that portray should be considered as part of this proposal. HB noted that the proposal should include time information either as a series of grids or a grid series. The meeting agreed that this should be progressed and a paper submitted to HSSC4 requesting for it to be included in the TSMAD work program. *(See action 9)*.

11.9A Sea Ice Information [Smolyanitski]

AE proposed that future ECDIS systems should be able to include / display multiple product layers and should also be able to include sea ice information. The sea ice community have developed a comprehensive catalogue of sea ice objects, which have been included in the IHO FCD. It was proposed that all sea ice related objects should be removed from S-101 as it is anticipated that comprehensive sea ice information will be made available as an MIO. JW stressed that it was still a requirement for all navigationally significant information to be included in the base ENC dataset.

12. Any Other Business [Greenslade / Harmon]

Modeling Dates and Time for S-101. TR reported that current S-57 uses ISO 8601 – 1988 for encoding Date and Time. This system does not include leap years and it's not possible to encode the week number. He noted that this is an old version of the standard and proposed that TSMAD should consider

adopting the ISO TC211 19108 standard. HB noted that S-100 dates are in accordance with the Gregorian calendar and it may be necessary to reference the latest version of the ISO 8601 standard which is 2000. He questions whether there is a need for a structured attribute for encoding Time and Date. It was agreed that this needs to be investigated further. (*See action 9*).

Discussion about the funding of TSMAD development work. BG identified the following items for possible funding:

- S-52 Presentation review – for CSPs
- S-64 – build additional tests to better ensure that ECDIS systems portray/ behave correctly
- Portrayal Register Review
- S-100 Portrayal
- Portrayal Catalogue Builder
- S-58
- S-101 Test Plan
- S-101 Test Bed
- S-101 Viewer
- Executing the S-101 test plan.
- Catalogue builder – dependent of the completion on the catalogue and other work

Robert Ward noted that there is a small amount of contractor support from the IHB. In order for these funds to be used, they will need to be approved by the IHB Directing Committee, followed by the approval of the HSSC. Any proposal will have to be well motivated / documented and described before it will be considered. RW expressed concerns about going out to open tender as the bidding process could be more expensive than the cost of the contract. With this in mind it is recommended that TSMAD / DIPWG should consider projects that need funding very carefully.

Information paper on ECDIS anomalies clarifications changes and test material needed. HP provided a presentation and background paper on the work done by a subgroup established at the IHO stakeholders workshop for ECDIS anomalies in Jan 2012. The paper highlighted some errors / inconsistencies in the Check Data Set (CDS) which was distributed to mariners together with a questionnaire. Mariners were requesting report back on how their systems portrayed the CDS. HP pointed out that the TESARE feature with RESTRN = 14, was not a valid encoding and this was reflecting negatively of ECDIS systems. He noted that there was also an issue relating to the portrayal of the safety contour, which he had reported on in paper 9.6B.

HP requested that an EB should be produced to provide additional guidance on the use of RESARE and RESTRN, however JW noted that clear guidance had been included in the UOC. The definition of RESTRN = 14 is clear and unambiguous in the S-57 Attribute Catalogue, and there was no need for an EB.

13. Review of Meeting Actions

The action items listed at Annex D were reviewed and approved by the meeting.

14. Date and Venue of Next Meeting

The next TSMAD meeting is scheduled to take place between the 15th and 18th of January 2013 in Tokyo, Japan. The next Joint TSMAD / DIPWG meeting is scheduled to take place between during May 2013 in Washington, USA.

15. Elections for Chairs and Vice-Chairs of DIPWG and TSMAD

As this was the first meeting following an International Hydrographic Conference, the Working Group members were obliged to elect new office bearers. Mr. Barrie Greenslade and Ms. Julia Powell (USA)

were re-elected as Chair and Vice Chair of the TSMADWG. Mr. Colby Harman was re-elected as Chair of the DIPWG while Mr. Tom Mellor (UK) was elected as Vice Chair.

Annex A

List of Documents.

Doc No	Document Title
01A	List of Documents
01B	List of Participants
02A rev8	Joint Agenda for TSMAD-24 and DIPWG-4
03A	Minutes of the 23rd TSMAD Meeting (Wellington, NZ, January 2012)
03B	Status of Actions from TSMAD-23
04A	Minutes of the 3rd DIPWG Meeting (Seoul, RoK, April 2011)
04B	Status of Actions from DIPWG-3
05A	HSSC Actions for TSMAD
05B	HSSC Actions for DIPWG
06.1A	SNPWG (See also document 09.10A MPA Portrayal)
07.4A	ETSI (See paper 11.9A - Sea Ice Information)
08.1A	Paper-Chart / Simplified Symbology Consolidation
08.2A	U.S. Chart No. 1 - Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts (ZIP)
08.2B	Cursor Enquiry & Pick Reports
08.4A rev1	SNPWG – Marine Protected Area (MPA) Portrayal
09.1A.0	S-100 Portrayal Development
09.1A	Portrayal Model and XML Scheme (ZIP) Proposed new Direction for S-100 Portrayal (See also comments by HB and OW)
09.1C	Portrayal Proposal Review Discussion (by HA) Portrayal Register
09.2A	Portrayal Catalogue Builder
09.3A	
09.4A	S-101 Portrayal Documentation - Business Rules
09.5A	Display of isolated dangers in shallow waters
09.6A	S-52 Presentation Library v3.5 Development Issues
09.6B	Observations about deferred amendments - A study based on DIPWG 9.8A Clarifications and changes for IHO ECDIS Chart 1
09.6B	ECDIS anomalies Clarifications, changes and test material needed
09.7A	Truncation of Light Period (SIGPER) Values
09.8A	Clarifications and changes for IHO ECDIS Chart 1
09.9A	Safety Depth Contour & Safety Depth
09.9B	Setting Safety Depth and Safety Contours in ECDIS
09.10A	MPA Portrayal
10.1A	S-101 Comments Phase 3

10.1B	S-101 Draft Product Specification Phase 3
10.2A rev1	S-101 SI and SD Content paper
10.3A	S-101 Impact Study Survey
10.3B	S-101 Impact Questions (9 May 2012)
10.3C	S-101_Information Paper JLP
10.4A	S-101 Test Plan and Requirements
10.5A	S-101 – Timelines and Project Plan
10.6A	S-101 Impacts to IEC 61174 and IMO PS
10.7A	S-101 DCEG Report and S101 Appendix A Draft May 2012
10.8A	Attributes to Simplify Portrayal in S-101
10.9A	Lights in S-101
10.10A	Text Placement in S-101
11.1A	S-58 Rewrite
11.1B	Doc A Reclassified Checks
11.1C	Doc B Restructure Syntax
11.1D	Doc C Reworded Section 2.2
11.2A	S-64 – Additional Tests
11.3A	S-102 Comments for Next Edition
11.4A	GML Encoding in S-100
11.5A	Encoding Features in their True Position
11.6A	Change Proposal for S-100 GI Registry and S-99
11.7A	ENC Encoding Bulletins
11.7B	ENC EB and FAQ Web Pages Revisions
11.8A	Proposal to Establish S-10y Product Spec. for Navigationally Significant Surface Currents
11.9A	Sea Ice Information
AOB 1	Note on Modeling Dates and Times
15.1A	Election Process
15.1B rev2	List of Candidates

Agenda

Document No Prefix	Agenda Item	Document Title
TSMAD24/DIPWG4	01A	List of Documents
TSMAD24/DIPWG4	01B	List of Participants
TSMAD24/DIPWG4	02A rev8	Joint Agenda for TSMAD-24 and DIPWG-4
Matters Arising from TSMAD-23 (Wellington)		
TSMAD24/DIPWG4	03A	Minutes of the 23rd TSMAD Meeting (Wellington, NZ, January 2012)
TSMAD24/DIPWG4	03B	Status of Actions from TSMAD-23
Matters Arising from DIPWG-3 (Seoul)		
TSMAD24/DIPWG4	04A	Minutes of the 3rd DIPWG Meeting (Seoul, RoK, April 2011)
TSMAD24/DIPWG4	04B	Status of Actions from DIPWG-3
Matters Arising from HSSC-3 (Monaco)		
TSMAD24/DIPWG4	05A	HSSC Actions for TSMAD
TSMAD24/DIPWG4	05B	HSSC Actions for DIPWG
Reports of Activities of Other Working Groups		
TSMAD24/DIPWG4	06.1A	SNPWG (See also document 09.10A MPA Portrayal)
TSMAD24/DIPWG4	06.2A	CSPCWG
TSMAD24/DIPWG4	06.3A	DQWG
TSMAD24/DIPWG4	06.4A	TWLWG
Activities of Other Organizations		
TSMAD24/DIPWG4	07.1A	IALA
TSMAD24/DIPWG4	07.2A	ISO
TSMAD24/DIPWG4	07.3A	IEC
TSMAD24/DIPWG4	07.4A	ETSI (See paper 11.9A - Sea Ice Information)
Continuing Portrayal Topics		
TSMAD24/DIPWG4	08.1A	Paper-Chart / Simplified Symbology Consolidation
TSMAD24/DIPWG4	08.2A	U.S. Chart No. 1 - Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts (ZIP)
TSMAD24/DIPWG4	08.2B	
TSMAD24/DIPWG4	08.3A	Cursor Enquiry & Pick Reports
TSMAD24/DIPWG4	08.4A rev1	SNPWG – Marine Protected Area (MPA) Portrayal
New Portrayal Topics & S-100/101 Portrayal		
TSMAD24/DIPWG4	09.1A.0	S-100 Portrayal Development
TSMAD24/DIPWG4	09.1A	Portrayal Model and XML Scheme (ZIP)
TSMAD24/DIPWG4	09.1B	Proposed new Direction for S-100 Portrayal (See also comments by HB and OW)
TSMAD24/DIPWG4	09.1C	Portrayal Proposal Review Discussion (by HA)
TSMAD24/DIPWG4	09.2A	Portrayal Register

TSMAD24/DIPWG4	09.3A	Portrayal Catalogue Builder
TSMAD24/DIPWG4	09.4A	S-101 Portrayal Documentation - Business Rules
TSMAD24/DIPWG4	09.5A	Display of isolated dangers in shallow waters
TSMAD24/DIPWG4	09.6A	S-52 Presentation Library v3.5 Development Issues
TSMAD24/DIPWG4	09.6B	Observations about deferred amendments - A study based on DIPWG 9.8A Clarifications and changes for IHO ECDIS Chart 1
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TSMAD24/DIPWG4	09.10A	MPA Portrayal
S-101 Development Topics		
TSMAD24/DIPWG4	10.1A	S-101 Comments Phase 3
TSMAD24/DIPWG4	10.1B	S-101 Draft Product Specification Phase 3
TSMAD24/DIPWG4	10.2A rev1	S-101 SI and SD Content paper
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TSMAD24/DIPWG4	10.3B	S-101 Impact Questions (9 May 2012)
TSMAD24/DIPWG4	10.3C	S-101_Information Paper JLP
TSMAD24/DIPWG4	10.4A	S-101 Test Plan and Requirements
TSMAD24/DIPWG4	10.5A	S-101 – Timelines and Project Plan
TSMAD24/DIPWG4	10.6A	S-101 Impacts to IEC 61174 and IMO PS
TSMAD24/DIPWG4	10.7A	S-101 DCEG Report and S101 Appendix A Draft May 2012
TSMAD24/DIPWG4	10.8A	Attributes to Simplify Portrayal in S-101
TSMAD24/DIPWG4	10.9A	Lights in S-101
TSMAD24/DIPWG4	10.10A	Text Placement in S-101
General TSMAD Topics		
TSMAD24/DIPWG4	11.1A	S-58 Rewrite
TSMAD24/DIPWG4	11.1B	Doc A Reclassified Checks
TSMAD24/DIPWG4	11.1C	Doc B Restructure Syntax
TSMAD24/DIPWG4	11.1D	Doc C Reworded Section 2.2
TSMAD24/DIPWG4	11.2A	S-64 – Additional Tests
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TSMAD24/DIPWG4	11.9A	Sea Ice Information

TSMAD24/DIPWG4	AOB 1	Note on Modeling Dates and Times
Elections for Chairs and Vice-Chairs of DIPWG and TSMAD		
TSMAD24/DIPWG4	15.1A	Election Process
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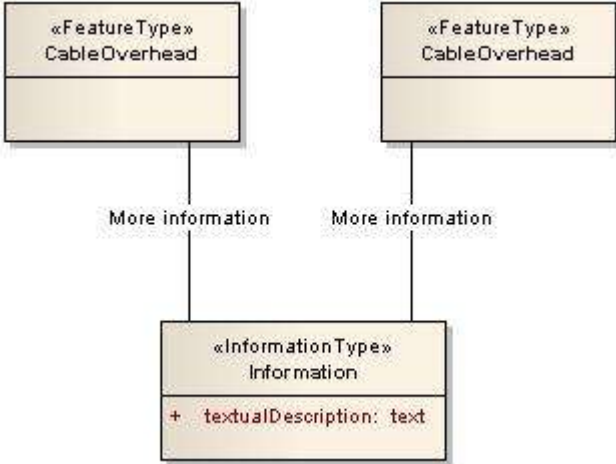
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List of Action Items from TSMAD 24 Meeting.

No	Sect. No	Description	Member
1	10.2A	Investigate what is required for documenting multiple dataset metadata using the 19115/19139 MD dataset series constructs for SI and SD datasets.	BG
2	10.3.A	Make the S-101 impact study survey (paper 10.3B) available as a web-based survey and present the results to the HSSC4 and TSMAD25 meetings.	LL
3	11.2A	TSMAD chair to organize a meeting and invite relevant stakeholders to develop a new version of S-64 as identified in TSMAD24-DIPWG4-11.2A	BG
4	11.3A	The list of 14 comments included at Annex 1 of paper TSMAD24-DIPWG4-11.3A are to be forwarded to the S-102 Work Item leader for consideration and possible inclusion in the next edition of the publication.	BG
5	11.4A	Prepare a paper for TSMAD25 presenting the options for an S-100 GML profile. (TR BG)	TR / BG
6	11.6A	Submit a paper to HSSC4 proposing that a work item to revise S-99 be added to the TSMAD work programme. The proposal should also request an amendment to the TSMAD ToRs to make provision for the on-going maintenance of S-99.	BG
7	11.7A	Include all approved new Encoding Bulletins and FAQs (presented in paper TSMAD24-DIPWG4 – 11.7A), in the EB section on the IHO web site. (IHB). Prepare a new draft version of the UOC for approval at HSSC4. TSMAD to review and approve changes by correspondence.	IHB JW
8	11.7B	Replace the existing list of Encoding Bulletins and FAQs on the IHO website with the revised list in paper TSMAD24-DIPWG44-11.7B. Remove FAQ 8 from the list. (IHB)	IHB
9	11.8A	Prepare a paper for submission to HSSC4, requesting that a new work item to produce a product specification for surface currents be added to the TSMAD work program (Canada).	LP
10	12	Study and produce a paper outlining how to model Dates and Time, taking into account the requirements of other WGs. To be presented at the TSMAD 25 meeting.	EM
11		Encoding Bulletin for ensuring sufficient topo information	JW/RF
12		Check S-58 and S-64 for incorrect use of RESTRN = 14	UK / SHOM

List of Action Items for S-101 Review Work

S-101 Clause	Action	Who	Status
4.3.4 – Information Types	<p>TSMAD24: Figure needs to use a better example. Such as a note regarding safe clearances which is referenced to multiple overhead cable features.</p> <p>NOTE: The DCEG has yet to define an information type. Once it does this would be the most appropriate example</p>  <pre> classDiagram class CableOverhead1["«FeatureType» CableOverhead"] class CableOverhead2["«FeatureType» CableOverhead"] class Information["«InformationType» Information"] CableOverhead1 --> Information : More information CableOverhead2 --> Information : More information class Information { + textualDescription: text } </pre> <p>EXAMPLE Additional information about Overhead cables is carried on an information type using the attribute textual description. The associations between the features and information type are named More information.</p>	TR	Done
4.3.5.2 – complex attributes	TSMAD24: Need a better example, perhaps Topmark	TR	Done

	<p>separate surface spatial that the feature refers to.</p> <p>Where a real-world feature is repeated in datasets of different maximum display scale, the FOID should be repeated for each instance of the feature across the maximum display scale range. Where this occurs, all instances of the geo feature must be identical, i.e. same feature class and attribute values."</p> <p>Para 4: "Feature Object Identifier's must not be reused, even when a feature has been deleted. There may be multiple spatial relationships on a single FOID."</p> <p>Proposed change to:</p> <p>"Feature Object Identifier's must not be reused by another feature, even when a feature has been deleted. The same feature can be deleted and added again later using the same FOID"</p>		
4.5.2 – complete datasets	<p>TSAMD 24: Once we have figured out packages and subsets, this section will need to be rewritten as it would eliminate the need for three different types of datasets and you would end up with complete (need different word) and scale independent datasets. As a complete could contain all the features or that subset that is not within the scale independent dataset.</p> <p>ACTION: Need to figure out feature relationships ACTION: If two features share the same geometry (spatial extent) they should be in the same dataset. This needs to be a rule</p>	BG,JP, TR,EM HE,HA	
4.5.4 – Scale Independent Dataset	<p>CARIS: Why restrict min/max scale. Why not just allow the dataset to cover a range of scales that spans multiple base datasets. Could it be desirable to have for example 2 Si datasets, one that works with large-medium scale base data and one for small scale datasets?</p> <p>Seems that really the scale dependent and scale independent are just variations on ranges of applicable scales. It might be better to identify the datasets as complete or incomplete in the sense of useable for navigation. Then define how the dependencies will be managed to allow an ECDIS to combine datasets to acquire a complete set usable for navigation. Perhaps individual datasets be marked not for navigation or use for navigation only if combined with dataset X.</p>	BG,JP, TR,EM HE,HA	
4.5/4.6 and Clause 11	<p>Need to look at consolidating these clauses into a single section as they repeat the same things over and over and we may end up being inconsistent.</p>	TSMAD	
5.2 – Horizontal CRS	<p>Should we specify the minimum accuracy to which something should be referenced to WGS-84? We do not state how accurately data is referred to WGS-84</p> <p>Add clause to cover minimum accuracy to WGS-84. Refer to DQWG?</p>	TR	Done

	<p>TSMAD24: ACTION TR to develop more words</p> <p>Propose amend 5.2 to;</p> <p>For ENC the geodetic datum of the horizontal CRS must be EPSG:4326 (WGS84). No projection is to be used. The full reference to EPSG:4326 can be found at www.epsg-registry.org.</p> <p>ENC data must be positionally accurate to within 0.3mm at the maximum display scale of the data to be considered accurately referred to WGS-84.</p> <p><i>This is in line with S-4 B202.2</i></p>		
11.1 – Exchange Set Structure	The figure will need to be reviewed against S-100 and possibly be changed to account for packages	BG	
11.3.1 – Datasets	<p>Amended wording with regards to features with geometric properties being coincident.</p> <p>ACTION: Need to have HA and TR review wording</p> <p>“Features with the geometric properties of point or line coincident with the border of two DataCoverage’s with the same maximum display scale must be part of only one DataCoverage.”</p> <p>Comment: I am not sure why we need to restrict this. Having duplicates displayed, and shown in reports would not be as bad as having the object removed from two datasets (assuming the other dataset includes it) and thus not delivered at all.</p> <p>I propose this: “Features with the geometric properties of point or line coincident with the border of two data sets with the same maximum display scale should be part of only one data set and if not it should be an exact duplicate with same FOID used for all occurrences so that ECDIS can filter duplicates from reports/alarms etc.”</p>	HA, TR	Done
11.3.1.2 – Complete 11.3.1.3 - SI 11.3.1.4 - SD	This section will need to be reviewed once we determine if dataset series will work. Also look to consolidate with clause 4.5 and 4.6	BG,JP, TR,EM HE,HA	
11.3.2 – Dataset File Naming	In general there needs to be a SI naming convention, unless the packaging concept renders this irrelevant	TBD	
11.4 – Support files	<p>CARIS: If we expect systems to do anything with an XML file then more info (schema etc will be needed) There are different flavours of html. Do we expect things like CSS to be supported?</p> <p>Ask system vendors for agreed specs</p> <p>UKHO: Need to be specific about the flavour of HTML. Suggest XML files are only used for a specific purpose.</p> <p>TSMAD24: Action TR</p> <p>HTML</p>	TR	Done

	<p>HTML files must only include inline or embedded Cascading Style Sheet (CSS) information and must not embed Javascript or other dynamic content e.g. DHTML, Flash etc.</p> <p>XML</p> <p>XML documents must only be included in accordance with guidance provided within the Data Classification and Encoding Guide. This may include a schema for the validation of XML documents.</p>		
11.6.2 CRC processing	Ask the OEM's if C code still required?	JP	
12.1.2 – Dataset Metadata	<p>metadataFileIdentifier - Should metadata file name be fixed to a common convention?</p> <p>TSMAD24: TR to come up with a naming convention</p> <p>TR – Propose that it must be unique, therefore suggest using the same fileName as the ENC dataset with an added prefix such as. To ensure uniqueness when update files may exist a suffix of the S-57 extension must be added. For example;</p> <p>Dataset GB45678.000 Metadata MD_GB45678_000.xml Update 1 Dataset GB45678.001 Metadata MD_GB45678_001.xml</p>	TR	Done
12.1.2 – minimumDisplayScale	<p>UKHO: display scales are 1,1 does this need to allow for 1,* so does not support data coverages with different</p> <p>UKHO: What happens to display in the ECDIS when the maximumDisplayScale is set to (1). Does the system allow the user unlimited zoom in?</p> <p>TSMAD24: Agreed - need to make a spatial resolution type with the elements being max and min display scale to account for multiple data coverages. Need to remove the value pick list and pass the value from the dataset.</p> <p>Need to figure out how to capture multiple coverages in the metadata.</p> <p>ED: Ask EK about this.</p>	EK	Done
12.1.3 – Support file metadata	<p>2J: What is the purpose of digitalSignatureReference and digitalSignatureValue?</p> <p>Ed NOTE: I think this comes from S-63 metadata</p> <p>TSMAD24: UK to seek clarification from the DPSWG</p>	UK	
Annex B	Need a cancellation profile	HB	Done
S-101 Clause	Action	Who	Status
4.3.4 – Information Types	TSMAD24: Figure needs to use a better example. Such as a note		

	<p>regarding safe clearances which is referenced to multiple overhead cable features.</p> <p>NOTE: The DCEG has yet to define an information type. Once it does this would be the most appropriate example</p>		
4.3.5.2 – complex attributes	TSMAD24: Need a better example, perhaps Topmark	TR	
4.4 – FOID	This section was taken from the DCEG – needs review by HA	HA	
4.5.2 – complete datasets	<p>TSAMD 24: Once we have figured out packages and subsets, this section will need to be rewritten as it would eliminate the need for three different types of datasets and you would end up with complete (need different word) and scale independent datasets. As a complete could contain all the features or that subset that is not within the scale independent dataset.</p> <p>ACTION: Need to figure out feature relationships</p> <p>ACTION: IF two features share the same geometry (spatial extent) they should be in the same dataset. This needs to be a rule</p>		
4.5.4 – Scale Independent Dataset	<p>CARIS: Why restrict min/max scale. Why not just allow the dataset to cover a range of scales that spans multiple base datasets. Could it be desirable to have for example 2 Si datasets, one that works with large-medium scale base data and one for small scale datasets?</p> <p>Seems that really the scale dependent and scale independent are just variations on ranges of applicable scales. It might be better to identify the datasets as complete or incomplete in the sense of useable for navigation. Then define how the dependencies will be managed to allow an ECDIS to combine datasets to acquire a complete set usable for navigation. Perhaps individual datasets be marked not for navigation or use for navigation only if combined with dataset X.</p>		
4.5/4.6 and Clause 11	Need to look at consolidating these clauses into a single section as they repeat the same things over and over and we may end up being inconsistent.		
5.2 – Horizontal CRS	<p>Should we specify the minimum accuracy to which something should be referenced to WGS-84? We do not state how accurately data is referred to WGS-84</p> <p>Add clause to cover minimum accuracy to WGS-84. Refer to DQWG?</p> <p>TSMAD24: ACTION TR to develop more words</p>	TR	
11.1 – Exchange Set Structure	The figure will need to be reviewed against S-100 and possibly be changed to account for packages		
11.3.1 – Datasets	Amended wording with regards to features with geometric	HA, TR	

	<p>properties being coincident.</p> <p>ACTION: Need to have HA and TR review wording</p>		
11.3.1.2 – Complete 11.3.1.3 - SI 11.3.1.4 - SD	This section will need to be reviewed once we determine if dataset series will work. Also look to consolidate with clause 4.5 and 4.6		
11.3.2 – Dataset File Naming	In general there needs to be a SI naming convention, unless the packaging concept renders this moot		
11.4 – Support files	<p>CARIS: If we expect systems to do anything with an XML file then more info (schema etc will be needed) There are different flavours of html. Do we expect things like CSS to be supported?</p> <p>Ask system vendors for agreed specs</p> <p>UKHO: Need to be specific about the flavour of HTML. Suggest XML files are only used for a specific purpose.</p> <p>TSMAD24: Action TR</p>		
11.6.2 CRC processing	Ask the OEM's if C code still required?		
12.1.2 – Dataset Metadata	<p>metadataFileIdentifier - Should metadata file name be fixed to a common convention?</p> <p>TSMAD24: TR to come up with a naming convention</p>	TR	
12.1.2 – minimumDisplayScale	<p>UKHO: display scales are 1,1 does this need to allow for 1,* so does not support data coverages with different</p> <p>UKHO: What happens to display in the ECDIS when the maximumDisplayScale is set to (1). Does the system allow the user unlimited zoom in?</p> <p>TSMAD24: Agreed - need to make a spatial resolution type with the elements being max and min display scale to account for multiple data coverages. Need to remove the value pick list and pass the value from the dataset.</p> <p>Need to figure out how to capture multiple coverages in the metadata.</p> <p>ED: Ask EK about this.</p>		
12.1.3 – Support file metadata	<p>2J: What is the purpose of digitalSignatureReference and digitalSignatureValue?</p> <p>Ed NOTE: I think this comes from S-63 metadata</p> <p>TSMAD24: UK to seek clarification from the DPSWG</p>	UK	
Annex B	Need a cancellation profile	HB	Done