Joint Transfer Standard Maintenance and Applications Development Working Group / Digital Information Portrayal Working Group Meeting (TSMAD29 / DIPWG7)
and
S-100 Working Group / ENC Working Group (S-100WG1 / ENCWG1)
Ottawa, Canada (2 -6 February 2015)

Minutes

TSMAD
Chairman: Barrie Greenslade (UKHO)
Vice Chairman: Julia Powell (USA, NOAA)
Secretary: Anthony Pharaoh (IHB)

DIPWG
Chairman: Colby Harmon (USA, NOAA)
Vice Chairman: Tomas Mellor (UK)
Secretary: Yves Guillam (IHB)

Annexes:

Annex A – TSMAD / DIPWG Actions (carried over)
Annex B – New S-100WG Actions
Annex C – List of Documents
Annex D – Agenda
Annex D – List of Participants

1. Opening and Administrative Arrangements

Barrie Greenslade, the TSMAD chairman opened the meeting and thanked the Director General of the Canadian Hydrographic Service for hosting the joint TSMAD29 / DIPWG7 meeting. Mr. Denis Hains, welcomed members to Ottawa and thanked participants for travelling long distances to get to the meeting. He reported that the CHS had five regional offices with Ottawa being the headquarters and responsible for strategic and tactical issues. CHS has participated in TSMAD and DIPWG standards development activities for many years, and would continue to support the standards development activities under the new Working Group structure.

Colby Harmon informed the meeting that he will be standing down as DIPWG chairman and will be a corresponding member of the new ENC Maintenance Working Group. He will be a participating member of the new Nautical Cartography Working Group.

The IHB reported that this was the last TSMAD / DIPWG meeting. The current TSMAD / DIPWG chairs have been appointed as coordinators for the transition to the new Working Groups – S-100WG and ENCWG. This process will take place at the end of the meeting under agenda item 12 and he reminded members that a CL (74/2014) had been sent out calling for nominations for officers for each of the two new Working Groups. These are Julia Powell (USA) and Tom Mellor (UK) to fill the chairman positions of the S-100WG and ENCWG positions respectively. He reminded the meeting that only two nominations for chairs for the two groups had been received and asked members to especially consider nominating office bearers for the positions of vice chairman and secretary. Additional submissions for chairman would also be considered. He noted that Vice chairmen would need to be prepared to act as chairman if a chairman is not able to attend a meeting, or will have to take over the chairman position if the chairman resigns. Members were asked to inform any proposals for office bearers to Tony Pharaoh before the close of business on Thursday 5 Feb.

CH reminded the meeting that he and BG had been appointed to act as transition coordinators tasked with preparing the first meetings of the new groups. Member States were invited to designate their representatives in the new working groups.

2. Approval of the Agenda.

2A. The joint agenda (document 2A) was approved by the meeting with a few minor changes to the order of items to be taken.

3. Matters Arising from previous meetings.

The minutes of the joint TSMAD28 / DIPWG6 meeting (paper TSMAD29-3A), Sydney, Australia (31 March – 4 April 2014), were reviewed and approved without comment.

The meeting reviewed the list of actions carried over from the Joint TSMAD28 / DIPWG6 meeting.

No	Minutes	Description	Who	Status
1	4.1.1	TSMAD to take into consideration the comments reported in paper HSSC5-INF2 (Appendix to Annex A), for inclusion in the next edition of the Use of the Object Catalogue (S-57, Appendix B.1, Annex A). It was decided to develop a paper on this for HSSC6. *JW reported that he had strengthened but he had not distributed it to the members of the WG yet.*	RF/JW	ongoing
2	4.1.1	TSMAD chair to include an additional item in the TSMAD work plan to review the S-100 Master Plan annually. Needs to be completed and will be reviewed annually at HSSC.	BG	completed
3	4.1.1	Provide a paper and recommendations on what S-58 checks should be included as part of S-101 – for TSMAD 29.	RF/JP	completed
4	4.5.2A	Remodel the concept for inshore and offshore (structures on the land and on the sea).	RF/JW	completed
5	4.5.2A	Amend the UOC for coastline references dock area.	JW	closed
6	4.8.1B	Revise paragraph 1 of the UOC section 6.3.2 to make it consistent with the proposed amendment to the UOC section 6.2.1 that are proposed in paper TSMAD27-4.8.1.	JW	To be completed during the meeting
7	4.8.1B	Produce an Encoding Bulletin providing guidance on "areas to be avoided" as proposed in paper TSMAD27-4.8.1B.	JW	completed

Action items from the Joint TSMAD28/DIPWG6 meeting

No	Minutes	Description	Who	Status
9	8.2B	Review and act upon the comments received for the review of the S-52, Ed 6.1 & PresLib Ed. 4.0 drafts, and when updated, endorse the drafts and submit to HSSC6 for consideration.	CH/TM	ongoing

10	8.2B	Make sure that “must” is used for all mandatory statements in the S-52 Ed 6.1.0 draft document.	CH/TM	completed
11	8.2B	Forward all changes to definitions that have resulted from the work on S-52 Ed 6.1.1, to the HDWG for review and inclusion in S-32. CH	CH/TM	ongoing
13	8.2B	Include a test in 6-64 for "text that can extend beyond a boundary", and remove the reference in S-64	TM	ongoing
15	8.2B	Develop an encoding bulleting to provide Guidance on how to encode a date that includes a leap year sequence.	JW	completed
16	9.1A	Consolidate those sections of S-52 that should be included in S-101 (as a result of meeting discussions), and send them out to TSMAD/DIPWG members for formal review and comment.	JP	completed
17	9.2A	Assist SPAWAR in specifying any portrayal elements specified in S-52 PL 4.0 (display category, priority, etc.) that could not be determined.	CH	In progress
18	9.2A	Provide guidance to SPAWAR regarding portrayal for hulks.	CH	closed
19	9.2A	Provide DIPWG with “finalized” implementation for lights and other recently changed features and attributes.	JP	closed
20	9.2A	CARIS to get back to CH concerning the level of effort required to fully convert all of the required S-52 CSPs into XSLT Templates.	HA	closed
21	10.2A	Include the revised S-101 Value Added Roadmap on the IHO website.	IHB	closed
22	10.2A	Update Figure 2 of the S-101 Value Added Roadmap document to illustrate how ECDIS will use S-57 and S-101 ENC data.	JP	closed
23	10.3A	Investigate whether a Content Management System could be used to generate/manage the content of the DCEG and other associated documents. (JP) NOTE : It was determined that this will need to be revisited in the future, but should not remain an open action item.	JP	closed
24	10.5A	Develop S-101 symbology for virtual AIS aids	DIPWG	ongoing
25	10.6A	The DCEG is to ensure that LOKBSN and DOCARE are included as group 1 features.	JW	closed
26	10.7A	Remove aggregations from the list of feature usetype enumerations list for S-100 and S-101.	BG/JP	closed
27	11.6A	The S-100 sub WG to take into consideration the proposals in paper 11.6A for action in S-100. Include examples of the use of aggregationa and associations.	S100subwg	ongoing
28	11.7A	Develop and submit a proposal for a registry based procedure for the allocation of S-100 product specification identifiers for presentation to the HSSC6 meeting for endorsement.	SM	closed

29	12.5A	Investigate (together with DPSWG) how to address cyber security issues for S-10n data products and services – with a view to providing guidance in S-100 for the use in dependent product specifications. (See associated TSMAD 26 Action)	DPSWG	closed
30	Portrayal Breakout Session	DIPWG to submit a proposal to TSMAD-DCEG regarding recommendations for structuring of restricted areas that will facilitate the portrayal of the various types of restricted areas. The recommendation will take into consideration a related paper previously submitted by Jeff Wootton	DIPWG	ongoing
31	Portrayal Breakout Session	Investigate possibility of using IHB resources to build True Type and or SVG fonts to support display of soundings and depth contour labels.	AP	complete
32	Portrayal Breakout Session	Provide guidance to AP regarding which characters will need to be converted to True Type fonts.	CH	ongoing
33	Portrayal Breakout Session	Convert RGB values in the S-100n Portrayal Register to sRGB values.	HB/BG	closed
34	Portrayal Breakout Session	Encoding Bulletin for and amendment to the UOC relating to holes in data coverage	JW/RF	complete
35	Portrayal Breakout Session	Coordinate the completion of S-64 based on the comments made during the meeting.	TM	closed
36		Update the draft edition of S-58 Edition 5.0	RF	closed
37	S-58 (paper 12.7A)	Consult with the IHB concerning the inclusion of the changes identified in 12.7A	BG	
38	S-58 (paper 12.7A)	Formulate revised text in 12.7A and circulate to the WG	S-58subwg	

4. Matters Arising from DIPWG-5 (Silver Spring, USA).

4A. Minutes from 5th DIPWG meeting.

The minutes were reviewed and approved without comment (see 3A above).

4B. Actions from the 5th DIPWG meeting.

DIPWG actions were reviewed (see 3B above).

5. Matters Arising from HSSC-6 (Marina del Mar, Chile)

5.1A HSSC Actions for TSMAD

HSSC6/03 *- Inputs to the current HSSC WPI for the 2014 period to be provided by HSSC WG Chairs (Performance Indicators No 2 and 3) and WEND WG Chair (Performance Indicator No 5) by 31 January 2015.*

TP reminded members of the need to provide input on Performance Indicators (PI) especially PI No 2 – Percentage of annual work programme achieved and PI No 3 – total number of participants at meetings (MS and Experts Contributors) as reported in paper HSSC6-04.1A. He reminded the meeting that no information for PI 1 and PI 2 had been received for the TSMAD and DIPWG yet. As the completion date for this was 31 Jan he proposed the

meeting should provide the closing figures as of this meeting and start new monitoring figures for the new groups as at the beginning of their respective next meetings.

***HSSC6/05** - Chairs of S-100WG, DPSWG, HDWG to investigate the interactions between their activities and report at HSSC-7.*

JP reported that this will be taken into consideration for the HSSC7 report.

***HSSC6/06** - S-100WG to consider the need for creating an **S-101 Project Team** (with contribution of ENCWG if deemed necessary).*

JP noted that the S-101 work will be undertaken under an S-101 Project Team which will be formed after the completion of the transition process. TP reminded the meeting that this will have an impact on the S-101 roadmap and proposed that this should be discussed under agenda item 10.

***HSSC6/08** - Transition coordinators to manage the implementation of the new structure of WGs in accordance with transition arrangements agreed at HSSC6.*

TP noted that this is described in Annex B to the HSSC6 minutes. The transition coordinators for TSMAD and DIPWG are the current chairs. It was decided that this would be dealt with under agenda item 12 - election of S-100WG and ENCWG officers.

***HSSC6/10** - S-100WG to consider whether **additional business rules** should be imposed (via draft amendments to S-100 Part 12).*

JP stated that this would be undertaken by the new WG. TP reminded the meeting that there should be no impact on edition 2.0.0 of S-100.

***HSSC6/12** - TSMAD to provide relevant documentation to the **IHB in accordance with Resolution 2/2007** as amended, so the IHB can issue an IHO CL seeking approval of S-100 Ed.2.0.0 by IHO MS.*

JP reported that this was in hand.

***HSSC6/13** - In accordance with Resolution 2/2007 as amended, TSMAD to provide relevant documentation on the impact assessment for HOs and Industry on the future edition of S-102.*

JP reported that a paper had been submitted outlining the impact issues (See paper 11.3A). This will be addressed by the S-100WG and will be included in the report to HSSC7.

***HSSC6/16** - S-100WG to implement the proposal of TSMAD related to the registration of Product Specifications and to draft the appropriate **changes to the S-100 GI Registry and S-99**.*

BG reported that this item was ongoing.

***HSSC6/19** - Noting the retirement of the actual Registry Manager planned at the end of Feb. 2015 and considering the outcome of action HSSC6/18, HSSC Chair Group in liaison with IHB to implement a short term (interim?) solution for S-100 Registry Administration.*

JP reported that this had been discussed informally via email exchange and would be considered under agenda item 11. Su Marks (UKHO) will act as interim registry administrator until more permanent arrangements can be put in place.

***HSSC6/20** - S-100 WG to investigate possible options for providing some redundancy/robustness in the administration of the Registry and Registers managed by the IHO in the long term*

JP reported that this relates to item 6/19 above. TP noted that these two items must be included in the report for HSSC7.

***HSSC6/37** - S-100WG to monitor and coordinate interactions with OGC and IOGP, to ensure proper harmonization in the development of standards (such as IOGP SSDM SeabedML) and facilitate the multi-use of survey data and report to HSSC.*

JP noted that this would be discussed under agenda item 7.

6. Reports of Activities of Other Working Groups

6.1A SNPWG

EM reported that since the last Joint TSMAD/DIPWG meeting, the SNPWG had held two meetings in Rostock, Germany (BSH) and Cadiz, Spain (Spanish HO). The report covers items resulting from these two meetings.

Context features - SNPWG discussed the implementation of a new "context features" construct to support interactivity between different Product Specifications noting that NPUB Product Specifications could be accessed by devices other than ECDIS. SNPWG have identified S-101 features would be sufficiently generic to present a charted background to NBUB products and context features will be developed for product specific features/attributes.

MPA - The application schema for the S-122 MPA Product Specification has gone through several iterations. It is expected that further amendments will be required depending on the outcome of the S-101 and SNPWG data model harmonization work.

The S-123 Radio Services PS is nearing completion. Its completion depends on the experiences gained during the development of the S-122 product specifications.

Data model harmonization – a joint SNPWG/DQWG proposal to meeting (paper 11.7A has been submitted to avoid misinterpretations where data from multiple products are overlayed on an ECDIS screen which could result in a misleading or confused quality assessment and mistrust by the users.

SNPWG also submitted several proposals to the DCEG sub group in order to extend the data model and to improve the cross harmonization of the different data models.

SNPWG have requested assistance from the DIPWG in order to complete the S-122 Product Specification development work. EM questions which of the new WG would will provide this help/guidance and when will it be forthcoming? It was concluded that EM should resubmit the paper to the NCWG.

The next SNPWG meeting is to be held in Monaco in June 2015, there the WG will be NIPWG (Nautical Information Provision Working Group). A significant new focus of the new WG will be to take the progress of the IMO e-nav strategy into account.

The meeting noted the paper and agreed that the WG should reconsider the paper TSMAD24/DIPWG4-08.4A rev1, and provide an approximate delivery date of the portrayal instructions.

6.2A CSPCWG / NCWG

JW reported that due to a heavy workload, it had not been possible to submit a written report. He reported that there had not been a meeting since the last joint TSMAD/DIPWG meeting.

Items progressed via correspondence include:

Extension to allow for 5 digit INT chart numbers: These can now be issued by Regional INT Chart Coordinators where there is insufficient range of 4 digit numbers for the Region.

Glaciers: Revised guidance to allow for land contours to be encoded across glaciers. Research done in regard to ECDIS portrayal and there is no issue in regard to this.

Maintained/Dredged areas: Confusion for paper chart users in regard to the interpretation of INT1 I21 and I23. I23 will be removed, and I21 amended to reflect intent to indicate depths that are maintained by the relevant authority by regular control surveys and/or re-dredging. May impact S-101 in regard to the value "depth regularly maintained" for QUASOU. JW will need to draft a Proposal for the DCEG in this regard.

Maximum authorised draught: New guidance is being developed regarding the depiction of Maximum Authorised Draught on paper charts. However, as part of this discussion, a suggestion has been made that this information can be shown, in areas of little or no tide range, in lieu of physical depth bathymetry. Will be discussed at CSPCWG11, and may have significant impact on S-57/S-101 in regard to SOTE.

Dangerous Cargo Berth: New symbol has been developed, and by extension a new symbol for a dangerous cargo anchor berth. Will impact on S-57 and S-101 once approved for inclusion in S-4 by IHO MS (encoding and portrayal).

Wind farms under construction: New guidance to be included in S-4. Impact on S-57/S-101 in regard to encoding guidance.

Covered berths: New guidance to be included in S-4. There has been guidance included in UOC and DCEG in regard to covered boat houses, which may be extended to include covered berths. Issue of portrayal on paper charts to be discussed at CSPCWG11. Will impact on S-57/S-101 in regard to encoding guidance and possibly S-58 in regard to "logical consistency" checks for buildings over water.

AIS proliferation: It has been acknowledged that in some ports most, if not all, AIS AtoN's are being fitted with AIS transmitters or synthesised as AIS AtoN's. New guidance to be included in S-4 regarding this. Encoding guidance on this may be required for UOC and DCEG.

QR codes: New guidance on the insertion of QR codes on paper charts to be added to S-4. Possible discussion required regarding the inclusion of such information in ENC – inclusion of url information?

Other issues discussed by correspondence and discussion items for CSPCWG11:

- *Continued discussions regarding radio activated fog signals and lights.*
- *Discussion on reliability and depiction of satellite derived bathymetry on charts.*
- *Discussions regarding the future of S-4 – format, etc.*
- *New Vice-Chair (Nick Webb (UKHO)).*
- *Amendment to S-4 B-160 to acknowledge requirement for S-4 revision approval process to conform to Resolution 2/2007. Will potentially impact on NCWG relationships with S-100WG and ENCWG regarding timeframes for impact of changes to the Registry and S-101/S-10X in reaction to changes to S-4.*
- *Possible involvement of the ICA in as an expert contributor to the WG, and vice-versa.*

Future of the paper chart: Developing some IHO strategy and guidance regarding the future of the paper chart as a primary navigation tool given the increasing use of ENC and ECDIS.

Amendment of the ToR's and Procedures of the WG to recognise the role of the WG in relation to all nautical charting products. This includes taking over some of the responsibilities of the DIPWG in regard to symbols in ECDIS, and the important role of nautical charts in integrated navigation systems and e-navigation.

HSSC Issues include:

- *CGHR discussions. Proposal to merge CSPCWG and SNPWG into the NIPWG. Agreement to retain autonomy of WG and review annually.*
- *Re-name WG to the NCWG.*
- *Consistency of content between paper charts and ENC (related to AVCS Admiralty Information Overlay – will be discussed at CSPCWG11 with intention of including guidance on what is meant by "consistency" between ENC and paper chart content in S-4.*
- *The next meeting is to take place in Rostock, Germany from 27 to 30 April.*

6.3A DQWG

EM reported that the DQWG had their 8th meeting in Pool, UK between the 25th and 27th March 2014 and reported that Mr. Antti CASTREN (Finland) had taken over as chairman. The vice chair will be elected at the next meeting. Australia had made some input on sounding quality which was reviewed during the meeting. The WG have compiled a list of shipping incidents with a view to determining which incidents were as a result of data quality problems. The WG will attempt to educate the mariner about understanding quality issues. The Nautical Institute will include this in their curriculum.

6.4A TWLWG

***JP** reported for the TWLWG. As a result of the restructuring of the HSSC Working Groups, the activities of the TWLWG and SCWG will be moved into a new group called the Tides, Water Levels and Currents Working Group (TWCWG). The activities of the SCWG will be undertaken by a TWCWG Task Group. She also noted that work undertaken by the UKHO would be reported in papers 06.4B and 06.4C.*

6.4B

SM reported that the Dynamic Water Level Data Transfer Product Specification was presented to HSSC6 and adopted as an S-100 Product Specification with number S-112 (see paper 04.6C). The TWLWG consequently received action, HSSC6/29, requiring them to liaise with S-100WG in order to identify the appropriate expertise to progress the work and present S-112 to the HSSC7 meeting. HP expressed some concern that the tide values were for one point and the specification did not cater for co-tidal variance. HB noted that SevenCs have an inland ECDIS that interrogated water level gauges, and one of the difficulties is that many different types of gauges having different data formats are used. He noted that this was a good start but proposed that it needed more work. It was agreed that a breakout group should be formed during the course of the meeting – to extend the specification.

Results of the breakout group – discussion about creating a vector overlay – with areas that represent portions of the bathymetry that have different co-tidal regimes. Tidal information could be streamed to the vessel utilizing AIS Application-Specific Messaging and the tidal value + co-tidal variance applied to the underlying depth area. The number of depth areas would have to be increased. The following members indicated that they would work on S-112 - SM, HB, JP, EM, KI, JW (for AHS Tides officer).

<u>It was agreed that the draft S-112 should be sent to the TWCWG meeting in April 2015 for comment and feedback.</u>

See associated action item.

Additional comments:

HP – some concerns by a single point – what if an area requires coverage – there will be a need to have an interpolation model between points. SM noted - this will only cover the transmission of tidal data not the implementation of the data.

JS – had some concerns about security and proposed that this needs to be discussed further i.e. false data could be sent to the vessel.

HB – application in the ECDIS is critical – SevenCs use the Tidal online service and proposed that further investigation is needed. Especially, there is a need to establish what IEC are doing. He noted that this is more of a data product and probably does not fit the S-100 model. It might be necessary to edit S-100 to accommodate the model. SM noted that this draft is a starting point; it needs further development and requires additional feedback.

EM - noted that IALA are working on data streaming – this is data centric and does not fit the model. He proposed to look at what the CHS are doing for the ST Lawrence River using gridded data.

KI - noted that an important issue to consider was haw to take into account different tidal models.

WL – we will be introducing many PS which will need to interact – we need to understand issues related to what the master will be allowed to do and for example what will the legal implications be? HB proposed that the ENC (SENC) data will not be changed by this data, it will only drive portrayal.

S-112 Product Specification - Meteorological and Hydrographic Data AIS Application-Specific Message Dynamic Water Level Data Product Specification Draft 0.0.0 - November 2014.

Proposed that this should be a project of the S100WG.

6.5A DPSWG

No report provided. TM reported that the main reason for producing a new edition of S-63 was to include a new section on ENC update status report. TP reported that the new edition was endorsed by HSSC6 and sent for MS approval via CL 75/2014.

6.6A MSDIWG

No report provided. TP noted that the MSDIWG had been transferred from the HSSC to the IRCC.

7. Activities of Other Organizations

7.1A IALA

EM reported that IALA are working on a number of product specifications that are relevant to the work of the S-100WG and the ENCWG. IALA have been allocated S- numbers(S-201 to S-209) for their AtoN specifications. He noted that IALA data streaming has become an important issue that needs to be monitored and could be an alternative method for transferring tidal and surface current data – this is related to the paper by SM.

TP reported that the IHB PresidentPres Robert Ward had spent the week at the e-Navigation Underway conference, and reported that IALA had indicated that they were about to commence work on an MSI product specification, and suggested that the S-124 WG (which is a WWNWS correspondence group) needs to keep abreast of what is happening in the group. TP noted that he was hoping to get MB to report on the conference but he had unfortunately not arrived yet.

TP noted that, although S-124 was not part of the S-100/ENCWG program, he proposed that the WG should monitor the IALA activities and if possible participate in their meetings. EM noted that he participates in the meetings. TP asked the meeting to note that the next two e-Nav meetings were scheduled to take place between 20-24 April 2015 and 26-30 October 2015. He also mentioned that there was a North America e-Nav Underway conference and proposed that members should attempt to have at least one S100WG member participate.

7.2A ISO

TP reported on the 39th ISO/TC211 meeting which took place in Shenzhen, China from 24 to 28 of November 2014. ISO documents undergo systematic reviews at three or five year intervals after publishing. Based on the results of a systematic review, a document is either confirmed (retention without technical change), amended or revised (retention, with change(s)), or withdrawn. He reported that the following standards were registered for revision; 19142 -"Web Feature Service", 19143 - "Filter Encoding", 19111 - "Spatial referencing by coordinates", 19101 - "Reference model (Part 2) for Imagery", 19126 - "Feature concept dictionaries and registers."

Changes to Metadata ISO 19115 consists of the following parts, under the general title Geographic information — Metadata: Part 1: Fundamentals (published in 2014), Part 2: Extensions for imagery and gridded data, Part 3: XML schema implementation of metadata fundamentals [Technical Specification].

Summary of major changes:

- *The concept of "Core metadata" was removed;*
- *Metadata for services was added, derived from ISO 19119:2005 ;*
- *Data quality was moved to ISO 19157;*
- *Annex F was added to describe metadata for the discovery of service and non-service resources;*
- *Many codelists were extended;*
- *The use of "Short name" and "Domain code" was dropped for metadata elements and codes respectively.*

*A new project on the **preservation of digital data and metadata (NP19165)** was approved and added to the programme of work.*

7.3A IEC

HP reported that the next meeting of the IEC TC80 WG8 will take place in September (19-20) and it is planned that the next edition of IEC 61174 will be ready for testing after that meeting. He reported that there is a need to ensure that S-64 Edition 3.0.0, S-52 Edition 6.1.0 and the Presentation Library Edition 4.0.0 are complete, correct and published before then as the new edition of IEC 61174 will reference these documents and their version numbers. He noted that several issues (inconsistencies / errors) had been discovered with the recently released editions of these publications and strongly recommended that these are fixed and released as revisions. TP noted that the issues identified in the Furuno papers went beyond clarifications and would probably require the provision of new (full) editions. It was agreed that these items would be discussed under the submitted papers.

7.4A WMO JCOMM ETMSS

No report provided.

7.5A WMO JCOMM/ETMSS

*CR noted that the 4th Session of the JCOMM (2012) recognised that there was a requirement for a marine weather overlay product specification for ECDIS. A Weather Overlay feature catalogue which includes 40 meteorological and oceanographic objects and 80 attributes had passed two review periods by ETMSS members. A core feature portrayal specifications that uses SVG and XML has been developed. ETMSS applied to become an IHO Submitting Organization and for an IHO Register in September 2014 and was granted the **S-412 Weather Overlay (WXO) PS number**. It was agreed that closer coordination with the TWCWG needs to be established to ensure that there is no duplication in the feature definitions.*

The meeting noted the paper and agreed that this work needs to be supported by the S100WG and ENCWG as required. TP requested that this needs to be added to the list of Prod Specs.

7.6A DGIWG

Tom Richardson representing DGIWG and GMWG, and began by describing DGIWG and its relationship to IHO via a Technical Cooperation Agreement. He described the range of DGIWG technical groups which cover, imagery, web services, metadata and vector data. He introduced the Defence Geospatial Information Framework which can be considered analogous to S-100. DGIWG standards are also being built on the ISO 19100 series of standards and will start with the development of future include various Data Product Specifications. They are also developing web services standards (which could be included in S-100?) and have developed a Metadata Foundation profile of ISO 19115.

Have also developed an AML Portrayal Specification (based on S-52), and next generation AML products will be built on S-100 and S-101. This will be called AML+ and will be aligned with DGIWG developments with S-100 based products for WECDIS and DGIF products.

Areas of potential cooperation include the sharing of real world object images which DGIWG is beginning to include in its Feature Concept Dictionary. Interested parties were encouraged to contact TR for more information.

GMWG 07.8A

The NATO group responsible for AML the GMWG has developed a portrayal specification for S-57 AML which is based on S-52. Interested OEMs can be provided more information on this including a .DAI file containing symbol definitions. This group is also beginning to work towards S-10x AML Product Specifications under the AML+ brand. Initially this will focus on vector layers and build in part on S-101. GMWG will be looking to establish a domain, register concepts in the GI Registry and obtain an allocation of product specification identifiers. A proposal will be put to HSSC7 to progress these items. They will also be requesting a number of product specification identifiers for their future products. Furthermore he noted that DGIWG had developed profiles of the ISO web map and web feature service specifications which would fit the S-100 model and could easily be incorporated into S-100. It was agreed that there needs to be greater participation between the IHO Working Groups and DGIWG to ensure better harmonization between their geospatial products.

7.7A OGP

TP reported that he had provided a brief report at the last meeting about the OGP activities, and reminded the meeting that they had set up a task force to develop a standard GIS data model for seabed survey, called "Seabed Survey Data Model" (SSDM). It is designed to be used as a survey encapsulation and transfer standard for use by Oil and Gas (O&G) companies and survey contractors. It includes a data model for managing seabed survey data at an enterprise level within O&G companies. Noting HSSC6 action 37 (S100WG to monitor and coordinate interactions with OGC and IOGP, to ensure proper harmonization in the development of standards (such as IOGP SSDM SeabedML)) …" TP proposed the meeting needs to investigate how this action will be satisfied and this should be reported to the next HSSC meeting. He also reminded the meeting that at the last HSSC meeting, it was proposed to establish a "hydrographic survey" Working Group and reported that he would be report on the S-100 development to an IOC/IOD meeting which is scheduled to take place in Bruge in March. He also noted that the OGC have been involved in the development of the SSDM and the IHB had had some preliminary discussions about cooperating in this area.

7.8A GMWG (Geospatial Maritime Working Group)

TR reported that the GMWG wish to become a submitting organization to the IHO Registry, and have many feature concepts that the wish to submit to the IHO Registry. They are developing an AML+ product which will be the S-100 equivalent of the S-57 AMLs. They also wish to be assigned PS identifiers for the specifications that they will be developing.

7.9A DOALOS

No report.

8. S-52 Portrayal Topics >> ENCWG

TP reported that the new editions of S-52 (Edition 6.1.0) and Annex A- IHO PL (Edition 4.0.0) and S-64 IHO TDS for ECDIS (Edition 3.0.0) have been sent to MS (via CL 81 / 2014) for approval. Both new editions were endorsed by HSSC6, however there were a number of issues that need to be corrected before their distribution (especially in the S-64 TIM). The custodianship of S-64 will be with the ENCWG and it is strongly recommended that a rigorous review process should be put in place before any documents are released. He reported that there is an S-64 clause that allows for easy updating of the datasets when no change to the instruction manual is required (see section 1.9:

"… The IHO TDS may be upgraded from time to time to correct residual anomalies and ensure that the results of the tests conform to the description in this Manual. It is important to ensure that the tests are conducted with the latest version posted on the IHO web site. The version number (3.0.0) will remain the same as long as the corrections do not impact this document."

He also proposed the need to ensure that any change to the recent editions of S-52 and S-64 are considered with great caution so that there is no adverse impact on the finalization and approval of the new edition of IEC 61174. Changes should be limited to clarifications (as defined in IHO Resolution 2/2007 as amended) and should not introduce any new requirement. The WG should consider instances where there are weak regulations (e.g. no requirement to update ECDIS software) and consider carefully the impacts/constraints from the perspective of the partner organizations (IMO, IEC) and the end-users, noting that a number of stakeholders would be too happy to conclude that we are putting out immature standards.

8.1A New issues around S-64 and S-52 new editions

HP reported that Furuno have been implementing the new editions for their ECDIS models and although some issues were reported to the TSMAD28/DIPWG6 meetings, some additional items that need to be addressed have been discovered. These include;

Issue 1, Tests and screen samples ignore that presentation of attribute NATSUR – this could be either full name or abbreviation. It was decided that either full or abbreviated version is valid and to include a clause saying that this is admissible, and include pictures showing both in S-64. See clause in 8.4.3 of the new PL.

JW proposed that 8.4.3 - should be "must" and not "strongly recommended that …"
EM recommended to not make any changes to S-52 PL and rather include both pictures in S-64 to ensure both cases are covered – As proposed.

See associated action item.

Issue 2, Suitable text viewing group for attribute current velocity used by current and tidal stream objects should be defined in S-52 – Agreed by the meeting.

Issue 3, Error in screen sample for Test 3.3.7 Contour labels – Agreed by the meeting.

Issue 4, Test 3.6.5 "Test display" of S-64 needs extension to check suppression by drawing priority properly. Test 3.6.5 "Test display" of S-64 needs extension to check suppression by drawing priority properly. – This is not a change – it's a new test that will provide more comprehensive masking test – Agreed by the meeting.

Issue 5, Error in Set up for Test 3.6.8.1 - unofficial data boundary display – Agreed by the meeting.

Issue 6, Error in Set up for Test 3.6.8.2 Scale boundary display – Agreed by the meeting.

Issue 7, S-52 has different rule for detection of navigational hazard and display of isolated danger symbol – Agreed by the meeting.

Issue 8, S-52 has mismatch between detection of Safety contour and Navigation hazard rule for object LNDARE – Agreed by the meeting.

Issue 11, Typo on test description of Test 5.4 Detection and Notification of Navigational Hazards - Use of largest scale available Monitoring Mode – Agreed by the meeting.

Issue 12, Parallel graphical highlight for safety contour and navigational hazards – Agreed that red has a higher priority than the yellow.

Discussion about whether these could be included as clarifications. The typos and possibly incorrect screen dumps could be included as clarifications. The other substantive changes can only be implemented via a new edition. It is not necessary to wait for the next HSSC meeting, approval could be obtained by HSSC letter.

8.2A New issues in S-52 new edition around ECDIS Chart 1

HP reported that as a result of testing they have found a few new ECDIS Chart 1 related issues which require fixing of the S-52 PresLib document.

- *Issue 1 - Changes made for Chart cells of ECDIS Chart 1 are not updated in the document – Agreed by the meeting.*
- *Issue 2 - Some screen samples of ECDIS Chart 1 include errors which need fixing. These include Object "Radio Station DGPS, Objects "Vegetation – tree in general" and "Vegetation – mangrove tree", value of land elevation, and radio transmission – Agreed that these all need to be corrected (as per the screen samples provided in the paper).*

HP proposed to correct the inconsistencies via the issuing of a clarification S-52 PresLib ed 4.0.1. It was noted that the changes required for Issue 1 is more extensive than a clarification.

Se associated action item.

9. S-57 and S-58 Topics >> ENCWG

9.1A S-57 Encoding Bulletins

JW reported that over the past 4 years he has not had any FAQs but this year he had 4 questions however no actions required. EB noted that there were issues resulting from actions in the past 2 TSMAD meetings as well as a fourth one relating to signal sequence. The proposal concerning emergency wreck marking buoy was accepted. The following items were considered;

EBXX - UOC Clause 10.2.7 Areas to be avoided. JW noted that these areas should not be used for features other that IMO routing measures – Accepted by the meeting.

EBXX - UOC Clause 2.1.5.1 Seasonal Objects. Proposed that when the beginning or end of a seasonal object is the last day in February, that the PERSTA or PEREND attribute should be populated as the 28 February, and Updates issued each leap yaer to amend to the 29 February – This was agreed but JW is to add an additional explanatory sentence allowing for the date to be populated as "--03" if the leap year is of no navigational significance.

EBXX - UOC Clause 2.8.1 Wide blank areas. Some encoders are leaving holes in the data coverage where larger scale coverage exists. The EB is to prohibit this practice. It was agreed that this is not for existing cells; it was only for new editions – Agreed by the meeting.

See associated action item.

9.2A S-58 Edition 5.0.0 Status.

TP reported that S-57 Supplement 3 specifies that ENC data must meet the minimum validation requirements. Although no S-58 5.0.0 checks are currently mandatory, the intention is that Critical Errors will become mandatory once validation software conforming to S-58 5.0.0 is available and in use by ENC producers. He reminded the meeting that it was decided that a test dataset is to be developed to enable certification of validation tools (against the standard) and questioned who will develop the test dataset. He suggested that the date of 1 Jan 2016 proposed in IHO CL 08/2015 for the new edition to come into force may not be realistic and the meeting should discuss this in light of the proposals to implement the changes which were identified in the papers submitted by IC-ENC.

See associated action item.

RF reported that since the completion of S-58 Edition 5.0.0, the document was translated into Russian (by Vladimir Sekachev) and consequently many inconsistencies and errors were discovered.

He noted that, although many of the corrections are editorial, there are also many error messages that are a bit confusing and need to be changed.

TP reported that approval of S-58 Ed 5 had been announced through CL18 of 2014 in conjunction with S-57 Supplement 3 which specifies that ENC data should meet the minimum validation requirements. The intention is that ENC must pass the S-58 "Critical Errors" criteria when being validated. It is intended that the IHO will issue a circular letter to identify when producers should be expected to meet the minimum requirements – this will only be for new and updated ENC data. An implementation date of 1 January 2016 was proposed in IHO CL 08/2015 but this is no longer realistic and will have to be changed. Another issue that will have to be taken into consideration is the development of test datasets which will be used to certify the S-58 Ed 5 validation tools. He questioned who will develop these.?

The meeting agreed that an S-58 sub working group should be convened to discuss and correct the errors identified, and produce a revised edition 5.1.0 of the document.

9.2B S-58 ENC Validation Checks Ed5.0.0 – Comments

Considered during breakout group (see 9.2A).

10. S-101/X Topics >> S-100WG

10.1A S-101 Symbols for Virtual AIS Aids to Navigation (V-AIS AtoN)

CH reported that in 2013 a combined DIPWG / TSMAD portrayal / encoding bulletin was posted on the IHO web site as an interim solution for encoding virtual aids using NEWOBJ. This also included a description of the symbols (which are already installed in operational ECDIS systems) to be used to portray these objects. In 2014 DIPWG sent out a questionnaire presenting a number of options for a permanent solution for portraying V-AIS AtoN. He invited the meeting to consider the narrowed down set of portrayal options. He proposed that, taking into account improvements in screen resolutions, the simplified symbols could be replaced by conventional INT1 symbols.

TM was of the opinion that it would be better to keep the existing symbols. These are currently being used for S-57 ECDIS and mariners are familiar with them. He also suggested that it would it be appropriate to liaise with IALA when deciding on AtoN symbols. JW proposed that the opinion of mariner should also be sought.

The meeting endorsed the recommended S-101 ENC virtual AIS aids to navigation symbols and agreed that they should be forward to the NCWG for evaluation and S100WG for inclusion in future tests.

See associated action item.

10.2A S-101 Status and Risk Register

JP reported on the S-100/S-101 risk register and noted that its intended to highlight those areas where more work needs to be done and where progress is on track. She reported on the status of the Portrayal Catalogue Builder and reported that some additional extension had been identified. The S-100 Feature Catalogue Builder application has mostly been completed (by KHOA) and a baseline S-101 Feature Catalogue has been generated. The next iteration of the S-57 to S-101 convertor is currently under development. Further work is required on generating an updated Feature Catalogue that is used by the application. Additional work still needs to be carried out on the S-101 Portrayal Catalogue and test data for both the S-100 and S-101 test bed need to be created.

The meeting noted the status of tasks in the risk register and the Risk matrix presented in paper 10.2B.

10.2B S-101 Risk Matrix

JP provided a brief report on the S-101 risk matrix. TP proposed that it needs to be reflected to the S-100/S-101 value added roadmap.

See associated action item.

10.3A S-101 ENC Product Specification Annotated

The S-101 ENC Product Specification document was reviewed. JP noted that the redline version included many of the proposed edits in the comments sheet.

10.3B S-101 Comment Form Combined 2015 (including SPAWAR comments).

The list of outcomes resulting from the subgroups review of the comments and editorial observations are available from the TSMAD29 / DIPWG 7 document page.

10.3C S-101 Coordinate Reference System Change Proposal

RG proposed that there is a need to improve the consistency of the terminology used for Coordinate Reference Systems used in Section 5 and proposed changes to sections, 5.1, 5.2 and 5.3. HB noted that he supports the proposal as it clarifies the text in section 5, but noted that the second example showing the vertical CRS should be extended to include a complex CRS.

See associated action item.

10.3D S-101 Clarification of the Various Scale Values

SPAWAR proposed that there are ambiguities in the various scale values defined in S-101, and proposed to provide revised text for inclusion in the current draft S-101 document.

HE proposed that the issues of scales values was complex and would only be fully understood after testing. He proposed that they should be taken into account during testing with a view to improving the documentation once a better understanding of the issues had been gained. JW noted that there was still need to understand the issues related to scale variances of data as well as for loading and unloading issues.

It was agreed that the paper would be used for the testing of S-101 scale values.

10.3E S-101 Extension of the Category of Restricted Area Values

The proposals submitted by the SNPWG were discussed:

- *The proposal for Category of Restricted Area: enum value - coral sanctuary, was agreed for inclusion in S-101.* ***Action: JW to the DCEG (JW)***
- *Proposed change of the feature class PILBOP was accepted in principle; but EM to take back to NIPWG to see if the model can be improved.*
- *The difference of the geometric primitives statements for features was agreed.* ***JW to fix the point primitive discrepancy for Dam in the DCEG (JW).***
- *Clarification of MARSYS information was accepted. HB noted that there must be an authority to maintain the code list and supported the second option. The meeting agreed to the second option presented.*
- *Missing content in section 2.5.2. JW reported that there is a statement in the DCIG that this is still to be done.*
- *The reference to a non-existing attribute was accepted. JW reported that he has updated the DCEG for this.*
- *Harmonization between S-101 and SNPWG data model on update information was agreed in principal but no action is to be taken until more testing of the DCEG has been carried out.* ***Action for the DCEG to contact the chair of NIPWG to discuss harmonization issues. (JW)***
- *The issue on spatial quality was agreed. SM proposed that this should be included in the interest of completion.*

10.4A DCEG and S-101 XML Feature Catalogue Comparisons

JP reported that the paper highlights the inconsistencies between S-101 and the DCEG so that they may be resolved in the next iteration of the Feature Catalogue. An XSLT stylesheet was used to determine whether any features/attributes/enumerated values were missing from the Feature Catalogue.

The meeting noted the inconsistencies between the S-101 DCEG and the FC. It was agreed that further consideration should be given to the use of "classes" for associations in the Feature Catalogue and recommended that this needed further consideration by the S100WG.

10.5A SNPWG Harmonization of Text Information Model

EM proposed that there is a need for the harmonisation of the S-101 model with S-122, S-123 and other nautical publications specifications with respect to information encoded as text strings and text support. He noted that the proposed model will simplify the current modelling of text information as well as extend it to make provision for nautical information datasets. He proposed that S-100WG should interact with SNPWG/NIPWG to harmonize the modeling of text information in nautical publications and S- 101 application schemas wherever possible.

JW noted that he has no problem with the proposal provided that there is agreement that this is a requirement that the mariner really needs. HA questioned whether the file references in the text are mandatory or optional. JW

noted that a similar model had been considered by the DCEG and it was decided to change back because of the conditional/mandatory implications.

See associated action.

10.6A Changes to S-101 Data Quality attributes and encoding guidance in the DCEG.

EM reported that this paper is an input from the DQWG and it contains proposed the following changes for the S-101 ProdSpec and the S-101 DCEG relating to data quality issues.

- *Quality of non-bathymetric data – Accepted by the meeting.*
- *Quality of bathymetric data – Not accepted by the meeting. RF noted that this is unnecessarily complex and many HOs will not populate this field. The concept of sweeping depth areas is a mechanism to provide a clear statement of what is there (or not there). JW also questioned the value of including swept areas over unsurveyed area. This was illegal as it would create overlapping skin of the earth features. AT noted that swept areas could be considered as a surveyed area – but it is not possible to populate DRVAL2. This would have to be left empty.*

See associated action.

- *Quality of survey. This was accepted by the meeting, but with the additional values for technique of vertical measurement.*

10.7A A method of improving consistency between the S-101 DCEG and the Feature Catalogue.

YB noted that the DCEG and Feature Catalogue referenced a large number of different sources. He noted that a big advantage of S-100 is to enable that various versions of S-10X product can be managed and the concept of Plug & Play can be realized. If a product needs to be upgraded/changed, the Feature Catalogue and Portrayal Catalogue can be synchronized through the catalogue database in the S-100 Registry. However DCEG will also have to be considered carefully when a product needs to be changed. It is assumed that any changes to the data model in a Product will require revisions to the relevant data at the same time. He noted that there is a need to identify relevant user's requirements and verify the proposed concepts in a test bed project. KHOA will report further on their plans through test bed and research projects.

JW noted that this will be a big help to data encoders and he had discussed the possibility of producing a similar tool for the S-4 publication with the President of the IHB. EM proposed that it would be useful to include a sandbox function into the tool.

The meeting noted the proposals provided by KHOA and the Chairman invited invited the meeting to provide suggestions, comments and feedback to YB.

10.8A S-101 Validation Checks ***

JP noted that work had commenced on validation checks for S-101 and noted that the meeting needed to make some decisions about their structure and format:

Include S-101 checks in S-101 Prod Spec. JW proposed that if they are included with S-101, it will it be necessary to produce a new version whenever a new test is added. It was agreed that validation checks will be a normative annex that can be updated independently of the main S-101 independent document.

The meeting also agreed that the S-58 group should be tasked to produce the S-101 validation checks. TR noted that this is an additional task that might need HSSC approval. There was also a discussion about including the checks into a database – but no conclusion.

See associated action item.

11. S-100 Topics >> S-100 WG

11.1A S-100 Test Strategy Meeting Record

JP reported on the Test Strategy meeting that took place in Arlington, USA - 2014.

As a result of the review of the FC Builder, there were a few remaining issues. It was discovered that there are extra elements present in the catalogue which are not covered by the model. E.g. fc:catalogInfo and fc:dataSetAttributes. Resolution: It was decided that the fc:catalogInfo tag can be removed from the feature catalog as well as the fc:dataSetAttributes.

There were discussions on the S-100 database structure that was evaluated as part of the FCB development work. CH noted that the PCB will need to be updated to the latest edition of S-100 portrayal model which has been updated since the initial PCB development.

There were discussions on the S-57 to S-101 convertor and a report on the status of that development work and KHOA presented the simple SVG symbol viewer that they have been developing.

A review of the S-100/S-101 test cases was carried out and the meeting agreed that the test cases would have be extended as the test strategy is expanded.

11.2A S-100 Test Framework (draft Word version 0.4, December 2014)

JP reported on the S-100 Test Framework and outlined the various phases. She reported that there were several actions that resulted from the meeting – status of the action are;

Action 1 – completed
Action 2 – completed
Action 3 – completed
Action 4 – update the PCB to reflect S-100 Ed 2.0 – in progress with the latest csp
Action 5 – overtaken by events
Action 6 – ongoing
Action 7 – extend to cater for e-nav
Action 8 – ongoing
Action 9 – completed
Action 10 - completed

Canada questioned whether there will be non-compliant datasets as part of the test regime. It was considered that this would strengthen the test regime.

JP reviewed the various scenarios listed in paper 11.2C.

The meeting noted the S-100 Test Framework meeting minutes and agreed to move any outstanding actions from this meeting to the S-100 Working Group Action list.

11.2B S-100 and S-101 Test Cases

Zip file for download.

11.2C S-100 and S-101 Test Datasets and Scenarios.

CM proposed that a short explanation should be included on each of the scenario slides – stating whether they are "good" or "bad" scenarios.

Concerning overlaps, RF stated that it was not feasible to enforce MS to not provide overlapping data. It would be more appropriate to provide guidance on how to accommodate overlapping data. MB – noted we should also be considering how to optimize cells that overlap. RF reported that currently the allowable overlap is 5 meters on the ground, but this becomes meaningless at small scales. He proposed that provision should be made for a graduated overlap rule. Reference was also made to the Singapore study on overlaps. This will be reported to the next HSSC meeting.

JP reported that much of the work will be done under contract – funded by NOAA and KHOA, and invited the meeting to discuss and develop different types of test data required for this and also invited members to include additional test datasets that they deem necessary.

See associated action item.

The meeting noted the tests presented and agreed that a set of test datasets should be developed.

11.3A S-102 Specification Update Impact Study

WL reported that TSMAD27 6.1 proposed that S-102 be updated to cover deficiencies and incorporate beneficial enhancements. HSSC6 requested that TSMAD conduct an impact assessment prior to going forward with an update and this paper reports on the impact of producing a new edition of the standard.

He reported that the S-102 sub-working group leader had compiled a short questionnaire polling view on the need for a new version of S-102. The questionnaire was published as an internet survey. WL noted that the majority of the respondents were in favor of producing a new edition to address the issues highlighted in the questionnaire.

WL reminded the meeting that the intent of S-102 is a method of transferring high resolution bathy for use in information system whereas the bag format is for storing and transferring hydrographic datasets.

The meeting considered that the survey and results presented should satisfy the HSSC requirement for an impact study. The meeting endorsed the proposal to task a sub-working group to produce an updated version of S-102. An initial draft is to be completed for submission to the next S100WG meeting (or sooner if possible). A breakout group was formed to make a start on this work.

Report back from the S-102 breakout group. WL reported that they had a round table discussion. On the question of digital signatures it was decided to use S-63. Validation checks will be included as part of the PS - as a normative annex. He noted that it was agreed that portrayal needs further work, and a Feature Catalogue needs to be developed. There was a discussion on the development of a Portrayal Catalogue. This will probably use basic colour ramp which will typically show dangers as red.

11.4A ISO 19115 Updates to S-100

EM outlined the changes that have been made with respect to ISO metadata documents. He suggested that the group should consider making revisions to S-100 Edition 2 in order to stay in sync with the ISO metadata standards. This would also require revisions to S-101 and will need to be reviewed for compliance. The Feature Catalogue structure may also need to be edited

11.5A Progress on the S-101 Simple Viewer of KHOA

SO reported on the simple ENC viewer to support S-100/S-101 test bed work. KHOA have produced a viewer which was developed for S-57 based ENCs. It will be the baseline for the S-101 initiatives. The Simple Viewer will use S-

101 Converted Dataset, a Feature Catalogue, Portrayal Catalogue, and SVG Symbols are to be applied to the ENC viewer.

ROK and Jeppesen agreed to cooperate on a research project on S-100 based MSI (Maritime Safety Information). A GML schema and sample MSI datasets have been developed based on S-100 Edition 2.0. Two sea tests have been implemented in the ferry route of ROK's coast to test the result of the research project on the MSI data model.

SO also outlined the progress with the KHOA S-57 to S-101 converter and provided a brief demonstration.

GS provided a description on S-124 development. TP questioned how this would overlap with the new IALA MSI project. MB said that the IALA MSI relates to marine services portfolio 5 for MSI and will use S-124 to implement/deliver the service.

KI questioned the use of SVG – will manufacturers have to implement their own SVG libraries? HB noted that there are many SVG libraries that can be used in commercial SW.

The meeting noted the excellent work done by KHOA and supported the use of GML for the simple ENC viewer.

11.5B Status Brief for SPAWAR's S-100 Testbed Software

MS provided a brief report on the SPARWAR S-100 Test bed software development activities. He noted that the main issue that they encountered was the lack of concise rules for translating data from an ISO8211 encoding format (or, more generally, data that's described by a Feature Catalogue) into the portrayal input XML. HA noted that the schema should be part of the product specification. The schema files should be delivered with the Portrayal Catalogue i.e. it's a description of the model that the system should expect.

The meeting endorsed the continued development of the S-100 Simple Viewer (S-View) and encouraged members to comment on this work and proposed that it should be included as part of the TSMAD/S100WG Work Plan.

11.6A Improvement on the S-100 feature catalogue builder

YB reported on the progress of the FCB and highlighted some of the issues encountered with its development. The meeting noted the improvement of the S-100 Feature Catalogue Builder and commended KHOA for the excellent work on this project. The Chair invited members to provide comments / suggestions for improvement to KHOA.

11.7A Data Quality Model Harmonization

EM reported that there are differences between the SNPWG and TSMAD data quality models and the purpose of the paper was to propose how the models can be harmonized. He noted that the proposed changes to the S-101 data quality model will result in a data quality model that is more generalized and can be used in common across multiple IHO product specifications including nautical publications datasets as well as giving it the ability to capture quality characteristics at both coarse-grained and fine-grained levels, i.e., ranging from the dataset level down to feature class and attribute levels.

BG asked where this fits in within the S-100 data model. He noted that it could be included in the S-100 document, and then profiled in the product specification. EM agreed that this was the intention.

The meeting endorsed the resulting data model as the common data quality model for S-101 and will interact with DQWG and SNPWG to maintain a harmonized data quality model.

11.8A Management of dataset attributes in S-100

JP reported that during discussions at the Test Strategy meeting it was pointed out that some of the attributes need to be in the dataset (dataset attributes). Currently attribute descriptions are included in the external ENC catalogue. The methods proposed to achieve this include:

Model dataset attributes as an information type and then create a general metadata catalogue that contains the dataset attributes.

Or for those products that use S-100 ISO 8211 encoding they can be stored In the Dataset General Information Record. If the dataset attributes are modelled as an information type then an INAS field would have to be added to the S-100 record.

HB noted that this should not be a problem as this he had made provision for this in the changed model for S-100 Edition 2.0. After further investigation - it appears that this did not make it into the Edition 2.0.

See associated action item.

11.9A Update Proposal for S-100 Section 7-5.3

The meeting endorsed the revised text and diagrams for S-100 7-5.3 and agreed that the changes should be incorporated into the next edition of the S-100 Universal Hydrographic Data Model.

11.10A Review of the draft S-100 Master Plan

TP reported that this paper compiles inputs for consideration by the S100WG when reviewing the draft S-100 Master Plan in accordance with its work item D.1. He noted that the Master Plan (which is part of the TSMAD work plan for 2014 / 2015) needs to be carried over to the S100WG work plan for the 2015-2016 period, and it needs to take account of the Impact of the IMO e-Navigation Strategy Implementation Plan.

11.11A Potential Adjustments to S-100 Part 9 Portrayal

HA noted that while working on S-100 Part 9 Portrayal a number of issues had been identified and were presented for the meetings consideration. These include;

Item 1 - Identification and metadata for a standalone, named linestyle, area pattern or pixmap xml file
Item 2 - Correction: result.xml file included in A-1.3.1 was not updated to match the schema changes made since the earlier draft.
Item 3 - Improvement: Offset used for dashes and symbols in a line style.
Item 4 - Correction: The pen for a linestyle
Item 5 - Clarification/Improvement: Portions of lines that are too short for the linestyle.
Item 6 - Improvement: Named coverage drawing rules XML file
Item 7 - Improvement: Text Styles
Item 8 - Correction: Display planes are not sortable
Item 9 - Improvement: Meta data fields needed in the Portrayal Catalogue xml
Item 10 - Improvement: Updating of Portrayal Catalogues

The meeting agreed that these items should be considered as corrections or improvements for the next edition of the S- 100 Part 9 Portrayal.

11.11B Potential Adjustments to S-100 Part 9 Portrayal - Text Styles

HA noted that, as part of their investigation work on how to migrate the S-52 presentation lookup table rules into S-100 XSL templates, they are proposing that text styles be defined as registered catalogue items that would be

stored in the Portrayal Register. He requested comment from the working group on this approach or proposals on alternative approaches.

The meeting agreed that the proposed solution will simplify text instruction and will reduce the size and complexity of the text instruction in the XML form and will facilitate maintenance of text style.

11.11C Updates and Enhancements to the S-100 Portrayal Catalogue Builder

CH reported that the IHO contract to build the S-100 Portrayal Catalogue Builder (PCB) had been completed however in order to accommodate changes that have been made to the feature and portrayal models, some additional modifications to the PCB will be required. Changes will also be required enhance the application's to accommodate changes to the S-100 Portrayal Register structure. He outlined the tasks to be undertaken and noted that additional work will be required to populate the new S-100 Portrayal Register data fields. It is hoped that this work can be accomplished through the support that Member States will provide for the maintenance of the S-100 Registry. The meeting noted the report.

11.12A Resourcing the function of S-100 GI Registry Manager

TP reported that the Registry has been developed and managed, since its inception, by Mr. Barrie Greenslade on a part-time basis, through the generous support of UK. At the 6th HSSC meeting BG informed the meeting that he would be retiring in February and HSSC agreed that a short-term solution needs to be put in place.

The IHB was tasked to seek support from IHO Member States, on the basis of a job description prepared during the meeting (by BG and CH) and the S100WG was tasked to investigate a long term solution. This is to be reported to the next HSSC meeting (November 2015).

TP noted that IHO Member States had been invited to report on the possibility of providing in-kind support on the basis of the job description for a Registry Manager (reported in IHO CL 77/2014). In response to this; ROK, UK and USA offered to provide in-kind support and based on these, the IHB suggests that;

- *SM should be appointed as Registry Manager upon retirement of BG;*
- *There needs to be a handover period for administration tasks - BG and SM - in liaison with the IHB;*
- *The S100WG needs to identify what further development tasks are required - before the end of 2015 - taking into account S-100 Edition 2.0.0, and the offers of ROK and USA;*

TP invited members to consider the continued the operation and development of the Registry beyond December 2015.

SM enquired how long her commitment to supporting the registry would take. TP responded that according to the paper it would be until no later than 2016."no later than 2016". JP reported that there had been some preliminary discussions between NOAA and KHOA to improve the robustness and extend the functions of the registry. She noted that these updates may require a new edition of S-99.

The meeting noted the report, and agreed to consider the arrangements in section 7; and reportthat a position paper on the recommendations to the IHBcontinued running, management and maintenance should be submitted to HSSC7.

11.13A Interoperability of S-100 Product Specifications

TP noted that currently there are a number of S-100 based Product Specifications under development which are expected to be used in the next generation of ECDIS as well as in other GIS-based systems.

The IMO have chosen the S-100 data model to build its so-called "Common Maritime Data Structure" for e-Navigation. S-100 is no longer an IHO framework but rather an international framework, and the WG are invited to consider how S-100 based products and services remain compatible and interoperable.

He proposed that it would be helpful to get a "birds eye view" of "who is doing what" with S-100 and proposed that a cross domain study of those S-100 PS's that are expected to interoperate within e-Navigation (and other) systems should be conducted.

The chair thanked the IHB for the proposal and noted that it would be taken care of under Work Item A3.The chair noted that in the absence of completed product specifications (with the exception of S-102), sample datasets and S-100 based system software, it was premature to allocate resources to working on interoperability issues at this point, however this would have to be addressed in the future. JP noted that product interoperability had been considered during the Test Strategy meeting and would continue to be discussed at future meetings, but considered that it was premature to propose to HSSC that it should be an S-100WG work item at this time taking into account the points made by BG.

12. General TSMAD Topics

12.1A S-100WG Membership and Officer Nominations

TP reported that the HSSC6 meeting had approved a new structure for many its working groups. This included the TSMADWG and DIPWG which will be disbanded and two new WG will be constituted to take over the work.

IHO CL 76/2014 invited Member States to designate representatives for the new working groups and also to consider nominating candidates for WG Officers (Chair, Vice-Chair and Secretary). TP invited members to review the list nominations to the two new Working Groups (contained in Annex A to the paper) and report any inconsistencies or additional nominations to him.

TP reported that USA (NOAA) had nominated Ms. Julia POWELL for the position of S100WG chairperson, and Korea (Rep of) (KHOA) had nominated Mr. Yong BAEK for the position of vice chairperson. Mr. Eivind MONG (Jepesson) had been nominated as secretary. There being no objections and no other nominations, the meeting confirmed their appointment as the S100WG office bearers.

12.2A ENCWG Membership and Officer Nominations

See 12.1A above.

TP reported that the UK (UKHO) had nominated Mr. Thomas MELLOR to the position of ENCWG chairperson. There were no nominations for vice chairman, and Anthony PHARAOH (IHB) offered to act as secretary of the WG. There being no objections and no other nominations, the meeting confirmed their appointment as the ENCWG office bearers.

TP asked the meeting members to acknowledge the tremendous amount of work and significant contribution that the outgoing chairmen Barrie Greenslade and Colby Harman had made to the standards development work of the IHO.

13. Informational Papers.

The S100WG chairman noted that she had intended to review the work plan before the closure of the meeting, but due to a shortage of time she would distribute it by S100WG letter for comment.

TP reminded the meeting that any requirement for funding for outsourced work needs to be identified clearly and reported to the IHB well in advance.

13.2A+B New issues in S-64 new edition around Polar ENC

HP noted that one of the reasons cited for the "ECDIS anomalies" was a lack of precise guidance and documentation for OEMs and some new issues have been identified concerning the S-64 test 3.9 dealing with the display of ENCs covering Polar Regions. He noted that the current unencrypted cells AA1NPOL3, AA1NPOLA and AA1NPOLB do not include restricted areas and proposed that these cells should be replaced by the Dec 2013 cells which do include these features.

See associated action item.

14. Any Other Business

TP reminded the outgoing (TSMAD-DIPWG) chairs of the 15 Feb deadline for submitting biannual progress report for the past 6 months activities. New office bearers will have do likewise for their new WG activities.

He also reminded the meeting that a Stakeholders forum day was being planned to take place during the HSSC7 meeting and to submit any proposals for discussion to the IHB.

He informed members of the North America e-Navigation Underway - 2015 event. Session will be held at the State University of New York Maritime College on 28-30 September 2015.

15. Review of Meeting Actions for S100WG and ENCWG

The list of actions was reviewed and accepted by the meeting.

16. Date and Venue of Next S100WG and ENCWG Meetings

The S100WG chair noted that there was not a need to hold another full S100WG meeting in 2015, but proposed that an S-100 a Test Strategy meeting should be scheduled to take place in September 2015. The Chairman of the ENCWG was also of the opinion that it would not be necessary to have another meeting in 2015 and proposed that the WG should progress its work via correspondence.

Annex A

Carried over TSMAD / DIPWG Actions

Meeting	Reference	Action	Responsible	Completed	New WG
TSMAD27	4.5.2A	Remodel the concept for inshore and offshore (structures on the land and on the sea).	JW/RF	In Process	S-100WG
TSMAD27	4.8.1B	Revise paragraph 1 of the UOC section 6.3.2 to make it consistent with the proposed amendment to the UOC section 6.2.1 that are proposed in paper TSMAD27-4.8.1.	JW	In Process	ENCWG
TSMAD28/DIPWG6	6.5A	Include HDF5 as an enceding format in S-100 (It is included in S-102 and may also be used by the SCWG)	WL	In Process	S-100WG
TSMAD28/DIPWG6	8.2B	Forward all changes to definitions that have resulted from the work on S-52 Ed 6.1.1, to the HDWG for review and inclusion in S-32. CH	CH/TM	In Process	ENCWG
TSMAD28/DIPWG6	8.2B	Include a test in 6-64 for "text that can extend beyond a boundary", and remove the reference in S-64	TM	In Process	ENCWG
TSMAD28/DIPWG6	9.2A	Assist SPAWAR in specifying any portrayal elements specified in S-52 PL 4.0 (display category, priority, etc.) that could not be determined.	CH	In Process	
TSMAD28/DIPWG6	9.2A	Provide guidance to SPAWAR regarding portrayal for hulks.	CH	Closed	
TSMAD28/DIPWG6	10.3A	Investigate whether a Content Management System could be used to generate/manage the content of the DCEG and other associated documents. (JP)	JP	Close	S-100WG
TSMAD28/DIPWG6	11.6A	The S-100 sub WG to take into consideration the proposals in paper 11.6A for action in S-100. Include examples of the use of aggregations and associations.	S100subwg	In Process	S-100WG
TSMAD28/DIPWG6	Portrayal Breakout Session	DIPWG to submit a proposal to TSMAD-DCEG regarding recommendations for structuring of restricted areas that will facilitate the portrayal of the various types of restricted areas. The recommendation will take into consideration a related paper previously submitted by Jeff Wootton	DIPWG	In Process	S-100WG
TSMAD28/DIPWG6	Portrayal Breakout Session	Investigate possibility of using IHB resources to build True Type and or SVG fonts to support display of soundings and depth contour labels.	AP	Close	S-100WG
TSMAD28/DIPWG6	Portrayal Breakout Session	Provide guidance to AP regarding which characters will need to be converted to True Type fonts	CH	In Process	S-100WG

Annex B

Meeting Actions

Meeting	Project Team	Reference	Action	Responsible
TSMAD / S-100WG Actions				
TSMAD29		6.4B	Produce an updated draft edition S-112 (taking into account comments from the meeting) and submit the document to the TWCWG meeting in April 2015 (UKHO) with a view to setting up a Project Team to continue the work item.	SM
TSMAD29	S-101	10.1A	Submit a paper outlining the issues and recommendations for S-101 Symbols for Virtual AIS Aids to Navigation (paper 10.1A) requesting NCWG to review the proposed symbols and provide recommendations for permanent V – AIS symbols.	CH
TSMAD29	S-101	10.2A+B+C	Update S-101 Road Map with updated timeline and risk register	JP
TSMAD29	S-101	10.3B	Update S-101 Product Specification to reflect the adjudicated comments	JP
TSMAD29	S-101	10.3B	Descripton the S-100 Portrayal Model into Clause 9 of S-101 which will describe the contents of the S-101 Portrayal Catalogue	JP
TSMAD29	S-101	10.3B	Prepare a proposal on support file management for the DCEG - and comment out the the existing section on support file management in S101	RF/Primar
TSMAD29	S-101	10.3B	Move the "S-52" Presentation Library Clauses to Annex C as a placeholder for later review.	JP
TSMAD29	S-101	10.3C	Update S-101 Product Specification to reflect the proposed changes to S-100 Part 5 Coordinate Reference Systems	JP
TSMAD29	S-101	10.3D	Insert the items raised in regarding use of scales in the S-101 test case document to ensure that they are captured during the testing process	JP
TSMAD29	S-101 DCEG	10.3E	Update the DCEG based on the comments provided by TSMAD for S-101 post baseline and harmonize back to SNPWG on the update information proposal> See TSMAD29 minutes for more information	JW
TSMAD29	S-101	10.4A	Update the S-101 Feature Catalog to resolve the noted inconsistences after the S-100 Register has been loaded	YB
TSMAD29	S-101 DCEG	10.5A+B	Dialogue with SNPWG on the proposed revised harmonized text model.	JW
TSMAD29	S-101	10.6A	Update Data Quality Model for the DCEG for those items that were approved.	JW
TSMAD29			Develop a paper Swept Areas and Skin of the Earth Features for presentation at DQWG	JW/CM/EM
TSMAD29	S-101	10.8A	Add a normative annex for Validation Checks in S-101	JP
TSMAD29	S-101	10.8A	Draft the creation of the first iteration of the S-101 validation checks and to considure using the feature catalogue in replace of S-58 check 2000	RF
TSMAD29	S-100	11.1A	Update the PCB to edition 2.0.0 of S-100 using an Engineering Change Proposal	HA
TSMAD29	S-100	11.1A	Draft an input paper for how alerts and indications should be handled in S-100	HP/JP

TSMAD29	S-100	11.1A	need to develop guidelines or a product specification to state how ECDIS/e-navigation datasets are to interact with each other	JP
TSMAD29	S-100	11.1A	Input all the S-101 DCEG proposals into the S-100 Registry	SM
TSMAD29	S-101	11.2C	Develop S-101 test datasets in accordance with the different scenarios identified in the test scenario repository	NOAA/KHOA
TSMAD29	S-100	11.4A	Prepare an official proposal to update S-100 Ed. 2.0.0 to reflect the changes in ISO 19115	EM/EK
TSMAD29	S-100	11.5A	Develop of an SVG Profile for S-100	HA
TSMAD29	S-100	11.7A	Inform SNPWG and DQWG to propose to S-100WG that the data quality principles as defined in Paper 11.7A be proposed to S-100	JP
TSMAD29	S-100	11.8A	Prepare a proposal to update S-100 Ed. 2.0.0 that includes dataset attributes in the Feature Catalogue Model (Part 5)	JP
TSMAD29	S-100	11.11A+B	Provide S-100 WG Chair with list of S-100 Portrayal Register tables/columns that need to be populated or repopulated with valid S-100 (S-101) content.	HA
TSMAD29	S-100	11.11A+B	Facilitate population of S-100 Portrayal Register tables/columns with valid S-100 (S-101) content with NOAA database management resources.	CH/JP
TSMAD29	S-100	11.11A+B	Investigate possibility of adding ability to output a "product input schema" based on the input used to generate a Portrayal Catalogue in the PCB. An example of which is shown in S-100 B-1.7.	HA
TSMAD29	S-100	11.11A+B	Prepare a proposal to incorporate the portrayal of coverage data in S-100	HA/WL
TSMAD29	S-100	11.11A+B	Propose enhancement to S-100 Edition 2.1 to include some internal references/metadata that should be added to the linestyle XML templates used in the portrayal register. This could include a name, creator and other information. There could also be a checksum added to validate that the correct template is being referenced. (Reference TSMAD29/DIPWG7 11.11A, Item 1)	HP/HA
TSMAD29	S-100	11.11A+B	Write paper to describe some use cases for the effective use of display planes and viewing groups for interleaving the contemporaneous display of different S-100 based products. (Reference TSMAD29/DIPWG7 11.11A, Item 8)	HP/HA/HB
TSMAD29	S-100	11.12A	Prepare a short term plan for improving the S-100 Register	JP/YB
TSMAD27	S-101 DCEG	4.5.2A	Remodel the concept for inshore and offshore (structures on the land and on the sea).	JW/RF
TSMAD28/DIPWG6	S-100	6.5A	Include HDF5 as an enceding format in S-100 (It is included in S-102 and may also be used by the SCWG)	WL
TSMAD28/DIPWG6	S-100	9.2A	Assist SPAWAR in specifying any portrayal elements specified in S-52 PL 4.0 (display category, priority, etc.) that could not be determined.	CH
TSMAD28/DIPWG6	S-100	11.6A	The S-100 sub WG to take into consideration the proposals in paper 11.6A for action in S-100. Include examples of the use of aggregations and associations.	JP
TSMAD28/DIPWG6	S-100	Portrayal Breakout Session	DIPWG to submit a proposal to TSMAD-DCEG regarding recommendations for structuring of restricted areas that will facilitate the portrayal of the various types of restricted areas. The recommendation will take into consideration a related paper previously submitted by Jeff Wootten	DIPWG

TSMAD28/DIPWG6	S-100	Portrayal Breakout Session	Provide guidance to AP regarding which characters will need to be converted to True Type fonts	CH
DIPWG / ENCWG				
DIPWG7	S-64	8.1A	*Action: write a paper on issue 1 for discussion at the NCWG and report back the ENCWG.*	JW
DIPWG7	S-64		Included the remarks concerning issue 1 - strongly recommending using abbreviated text for bottom type and include the diagram showing both abbreviated and full text in S-64.	JW
DIPWG7	S-52, S-64	8.2A	Form a correspondence group to produce a new versions of S-64 and S-52 to fix all the agreed corrections / errors – to be completed within 1.5 months.	TM, HP, HB, EM
DIPWG7	EBs	9.1A	EBs that were agreed during the meeting (9. to be sent to the IHB for posting on the IHO web site.	JW/TP
DIPWG7			S-58 sub group to produce a new edition of S-58 – (by end of March). Document to be distributed to ENCWG members for comment - then to HSSC for endorsement – then to MS for approval via CL – by early April. Need to make sure that the test dataset is ready.	S-58 sub group
DIPWG7		13	Use the Polar charts provided by UKHO to create catalogue files.	TM

Annex C

List of Documents

Number	Description	Date
TSMAD29/DIPWG7	01A	List of Documents
TSMAD29/DIPWG7	01B	Draft List of Participants (rev 6)
TSMAD29/DIPWG7	02A	Agenda (rev 6)
3. Matters Arising from TSMAD28 (Sydney, Australia)		
TSMAD29/DIPWG7	03A	Minutes of TSMAD-28 (Same document as 04A)
TSMAD29/DIPWG7	03B	Status of Actions (.xlsm Version) (PDF Version)
4. Matters Arising from DIPWG6 (Sydney, Australia)		
TSMAD29/DIPWG7	04A	Minutes of DIPWG-6 (Same document as 03A)
TSMAD29/DIPWG7	04B	Status of Actions from DIPWG-6 (.xlsm Version) (PDF Version)
5. Matters Arising from HSSC6 (Chile)		
TSMAD29/DIPWG7	05.1A	HSSC6 Actions for TSMAD and DIPWG
6. Reports of Activities of Other Working Groups		
TSMAD29/DIPWG7	06.1A	NIPWG (formerly SNPWG)
TSMAD29/DIPWG7	06.2A	NCWG (formerly CSPCWG)
TSMAD29/DIPWG7	06.3A	DQWG
TSMAD29/DIPWG7	06.4A	TWCWG (formerly TWLWG & SCWG)
TSMAD29/DIPWG7	06.4B	Dynamic Water Level Data Transfer Prod Spec - paper
TSMAD29/DIPWG7	06.4C	Draft Dynamic Water Level Data Transfer Product Specification
TSMAD29/DIPWG7	06.5A	DPSWG
TSMAD29/DIPWG7	06.6A	MSDIWG
7. Activities of Other Organizations		
TSMAD29/DIPWG7	07.1A	IALA
TSMAD29/DIPWG7	07.2A	ISO
TSMAD29/DIPWG7	07.3A	IEC
TSMAD29/DIPWG7	07.4A	WMO JCOMM ETSI
TSMAD29/DIPWG7	07.5A	WMO JCOMM ETMSS
TSMAD29/DIPWG7	07.6A	DGIWG
TSMAD29/DIPWG7	07.7A	OGP
TSMAD29/DIPWG7	07.8A	GMWG (Geospatial Maritime Working Group)
TSMAD29/DIPWG7	07.9A	DOALOS
8. S-52 Topics >> ENCWG		
TSMAD29/DIPWG7	08.1A	New issues around S-64 and S-52 new editions
TSMAD29/DIPWG7	08.2A	New issues in S-52 new edition around ECDIS Chart 1
9. S-57 and S-58 Topics >> ENCWG		
TSMAD29/DIPWG7	09.1A	S-57 Encoding Bulletins
TSMAD29/DIPWG7	09.2A	S-58 Edition 5.0.0 Status rev 2
TSMAD29/DIPWG7	09.2B	S-58 ENC Validation Checks Ed5.0.0 - Comments
TSMAD29/DIPWG7	09.2C	S-58 Draft ENC Validation Checks Ed5.1.0 Redline (zip)

10. S-101/X Topics >> S-100WG		
TSMAD29/DIPWG7	10.1A	S-101 Symbols for Virtual AIS Aids to Navigation (V-AIS AtoN)
TSMAD29/DIPWG7	10.2A	S-101 Status and Risk Register
TSMAD29/DIPWG7	10.2B	S-101 Risk Matrix
TSMAD29/DIPWG7	10.2C	S-101 Development and S-100 Testbed Timeline (Revised)
TSMAD29/DIPWG7	10.3A	S-101 ENC Product Specification Annotated_rev3 Word)
TSMAD29/DIPWG7	10.3B	S-101 Comment Form Combined 2015ÿ(including SPAWAR comments) rev 4
TSMAD29/DIPWG7	10.3C	S-101 Coordinate Reference System Change Proposal
TSMAD29/DIPWG7	10.3D	S-101 Clarification of the Various Scale Values
TSMAD29/DIPWG7	10.3E	S-101 Extension of the Category of Restricted Area Values
TSMAD29/DIPWG7	10.4A	DCEG and S-101 XML Feature Catalogue Comparisons
TSMAD29/DIPWG7	10.5A	SNPWG Harmonization of Text Information Model rev 1
TSMAD29/DIPWG7	10.5B	SNPWG Draft Proposal for Harmonization of Text Model
TSMAD29/DIPWG7	10.6A	Changes to S-101 Data Quality attributes and encoding guidance in the DCEG
TSMAD29/DIPWG7	10.7A	A method of improving consistency between the S-101 DCEG and the Feature Catalogue.
TSMAD29/DIPWG7	10.8A	S-101 Validation Checks rev 1
11. S-100 Topics >> S-100 WG		
TSMAD29/DIPWG7	11.1A	S-100 Test Strategy Meeting Record
TSMAD29/DIPWG7	11.2A	S-100 Test Framework (draft Word version 0.4, December 2014)
TSMAD29/DIPWG7	11.2B	S-100 and S-101 Test Cases (.zip)
TSMAD29/DIPWG7	11.2C	S-100 and S-101 Test Datasets and Scenarios (.pdf,ÿ.xls,ÿ.ppt)
ÿTSMAD29/DIPWG7	11.3A	ÿS-102 Specification Update Impact Study
TSMAD29/DIPWG7	11.4A	ISO 19115 Updates to S-100
TSMAD29/DIPWG7	11.5A	Progress on the S-101 Simple Viewer of KHOA
TSMAD29/DIPWG7	11.5B	Status Brief for SPAWAR?s S-100 Testbed Software
TSMAD29/DIPWG7	11.6A	Improvement on the S-100 feature catalogue builder
TSMAD29/DIPWG7	11.7A	Data Quality Model Harmonization
TSMAD29/DIPWG7	11.8A	Management of dataset attributes in S-100
TSMAD29/DIPWG7	11.9A	Update Proposal for S-100 Section 7-5.3
TSMAD29/DIPWG7	11.10A	Review of the draft S-100 Master Plan
TSMAD29/DIPWG7	11.11A	Potential Adjustments to S-100 Part 9 Portrayal
TSMAD29/DIPWG7	11.11B	Potential Adjustments to S-100 Part 9 Portrayal - Text Styles
TSMAD29/DIPWG7	11.11C	Updates and Enhancements to the S-100 Portrayal Catalogue Builder
TSMAD29/DIPWG7	11.12A	Resourcing the function of S-100 GI Registry Manager
TSMAD29/DIPWG7	11.13A	Interoperability of S-100 Product Specifications
12. Election of S-100WG and ENCWG Officers		
TSMAD29/DIPWG7	12.1A	S-100WG Membership and Officer Nominations rev 1
TSMAD29/DIPWG7	12.2A	ENCWG Membership and Officer Nominations rev 2
13. Information Papers		
TSMAD29/DIPWG7	13.1 A+B	Consolidated HSSC Work Plan
ÿTSMAD29/DIPWG7	13.2A+B	New issues in S-64 new edition around Polar ENC and Polar Datasets

Annex D

Agenda

Document Number Prefix*	Agenda Item	Agenda Item / Document Title	
Welcome address by the Director General of the Canadian Hydrographic Service			
1. Opening/Administrative Arrangements			[Greenslade / Harmon]
TSMAD29/DIPWG7	01A	List of Documents	
TSMAD29/DIPWG7	01B	List of Participants	
2. Approval of Joint Agenda			[Greenslade / Harmon]
TSMAD29/DIPWG7	02A	Joint Agenda for TSMAD-29 and DIPWG-7	
3. Matters Arising from TSMAD-28 (Sydney, 31 March - 4 April 2014)			[Greenslade]
TSMAD29/DIPWG7	03A	Minutes of TSMAD-28	
TSMAD29/DIPWG7	03B	Status of Actions from TSMAD-28	
4. Matters Arising from DIPWG-6 (Sydney, 31 March - 4 April 2014)			[Harmon]
TSMAD29/DIPWG7	04A	Minutes of DIPWG6	
TSMAD29/DIPWG7	04B	Status of Actions from DIPWG-6	
5. Matters Arising from HSSC-6 (Viña del Mar, Chile)			[Greenslade / Harmon]
TSMAD29/DIPWG7	05A	HSSC Actions for TSMAD	
TSMAD29/DIPWG7	05B	HSSC Actions for DIPWG	
6. Reports of Activities of Other Working Groups			[Harmon]
TSMAD29/DIPWG7	06.1A	NIPWG (formerly SNPWG)	[Mong]
TSMAD29/DIPWG7	06.2A	NCWG (formerly CSPCWG)	[Wootton]
TSMAD29/DIPWG7	06.3A	DQWG	[TBD]
TSMAD29/DIPWG7	06.4A	TWCWG	[TBD]
TSMAD29/DIPWG7	06.4B	Dynamic Water Level Transfer Prod Spec - paper	[Marks]
TSMAD29/DIPWG7	06.4C	Dynamic Water Level Transfer Prod Spec	[Marks]
TSMAD29/DIPWG7	06.5A	DPSWG	[TBD]
TSMAD29/DIPWG7	06.6A	MSDIWG	[TBD]
7. Activities of Other Organizations			[Greenslade]
TSMAD29/DIPWG7	07.1A	IALA	[TBD]
TSMAD29/DIPWG7	07.2A	ISO	[TBD]
TSMAD29/DIPWG7	07.3A	IEC	[Peiponen]
TSMAD29/DIPWG7	07.4A	WMO JCOMM ETSI	[TBD]
TSMAD29/DIPWG7	07.5A	WMO JCOMM ETMSS	[Reinert]
TSMAD29/DIPWG7	07.6A	DGIWG	[TBD]
TSMAD29/DIPWG7	07.7A	OGP	[TBD]
TSMAD29/DIPWG7	07.8A	GMWG (Geospatial Maritime Working Group)	[TBD]
TSMAD29/DIPWG7	07.9A	DOALOS	[TBD]
8. S-52 Topics >> ENCWG			[Harmon]
TSMAD29/DIPWG7	08.1A	New Issues around S-64 and S-52 New Editions	[Peiponen]

TSMAD29/DIPWG7	08.2A	New issues in S-52 new edition around ECDIS Chart 1 [Peiponen]
9. S-57 and S-58 Topics >> ENCWG		[Greenslade]
TSMAD29/DIPWG7	09.1A	S-57 Encoding Bulletins [Wootton]
TSMAD29/DIPWG7	09.2A	S-58 Edition 5.0.0 Status [Fowle]
TSMAD29/DIPWG7	09.3A	[TBD]
10. S-101/X Topics >> S100WG		[Powell]
TSMAD29/DIPWG7	10.1A	S-101 Symbols for Virtual AIS Aids to Navigation [Harmon]
TSMAD29/DIPWG7	10.2A	S-101 Status Report [Powell]
TSMAD29/DIPWG7	10.2B	S-101 Risk Register [Powell]
TSMAD29/DIPWG7	10.2C	S-101 Timeline [Powell]
TSMAD29/DIPWG7	10.3A	S-101 Product Specification [Powell]
TSMAD29/DIPWG7	10.3B	S-101 Comments + Addendum [Powell]
TSMAD29/DIPWG7	10.3C	S-101 Section 5 CRS Proposal [Greer]
TSMAD29/DIPWG7	10.3D	Clarification of the Various Scale Values in S-101 [Greer]
TSMAD29/DIPWG7	10.3E	S-101 DCEG Comments/Proposals -S_1xx_dceg_CATREA -S_1xx_dceg_cross_harmonisation_contact… -S_1xx_dceg_geometric primitive of a dam -S_1xx_dceg_MARSYS -S_1xx_dceg_point 2.5.2 -S_1xx_dceg_Source Indication of T and P -S_1xx_dceg_update information -S-101 DCEG Spatial Quality_NOAA [SNPWG/Powell]
TSMAD29/DIPWG7	10.4A	S-101 DCEG and Feature Catalogue Comparison [Powell]
TSMAD29/DIPWG7	10.5A	Harmonization of text information model [SNPWG]
TSMAD29/DIPWG7	10.5B	Draft proposal for harmonisation of text model [SNPWG]
TSMAD29/DIPWG7	10.6A	Data Quality Model Harmonization - encoding [DQWG/SNPWG]
TSMAD29/DIPWG7	10.7A	A method of improving consistency between the S-101 DCEG and the Feature Catalogue [Baek]
TSMAD29/DIPWG7	10.8A	S-58 Checks for S-101 [Powell]
11. S-100 Topics >> S100WG		[Greenslade]
TSMAD29/DIPWG7	11.1A	S-100 Test Strategy Meeting Results [Powell]
TSMAD29/DIPWG7	11.2A	S-100 Test Framework [Powell]
TSMAD29/DIPWG7	11.2B	S-100/S-101 Test Cases [Powell]
TSMAD29/DIPWG7	11.2C	S-100/S-101 Test Dataset Listing [Powell]
TSMAD29/DIPWG7	11.3A	S-102 Impact Study Results [Ladner]
TSMAD29/DIPWG7	11.4A	ISO 19115 Updates to S-100 [Mong]
TSMAD29/DIPWG7	11.5A	Progress on the S-101 Simple Viewer of KHOA [Baek]

TSMAD29/DIPWG7	11.5B	Status of SPAWAR's Simple Viewer	[Greer]
TSMAD29/DIPWG7	11.6A	Improvement on the S-100 feature catalogue builder	[Baek]
TSMAD29/DIPWG7	11.7A	Data Quality Model Harmonization	[DQWG]
TSMAD29/DIPWG7	11.8A	Dataset attributes in S-100	[Powell]
TSMAD29/DIPWG7	11.9A	Update Proposal for S-100 Section 7.5.3	[Greer]
TSMAD29/DIPWG7	11.10A	Review of the draft S-100 Master Plan	[Pharoah]
TSMAD29/DIPWG7	11.11A	S-100 Part 9 Portrayal Discussion	[Astle]
TSMAD29/DIPWG7	11.11B	S-100 Part 9 Portrayal Text Styles	[Astle]
TSMAD29/DIPWG7	11.11C	Updates and Enhancements to the S-100 PCB	[Harmon]
TSMAD29/DIPWG7	11.12A	Resourcing the function of S-100 GI Registry Manager	[IHB]
TSMAD29/DIPWG7	11.13A	Interoperability of S-100 Product Specifications	[IHB]
12. Election of S100WG and ENCWG Officers			
TSMAD29/DIPWG7	12.1A	S100WG Officer Nominations	[IHB]
TSMAD29/DIPWG7	12.2A	ENCWG Officer Nominations	[IHB]
13. Informational Papers			
TSMAD29/DIPWG7	13.1A + B	Review of consolidated S-100WG + ENCWG workplan	[TBD]
TSMAD29/DIPWG7	13.2A+B	New issues in S-64 new edition around Polar ENC + Polar Dataset	[TBD]
TSMAD29/DIPWG7			[TBD]
14. Any Other Business			[Greenslade / Harmon]
15. Review of Meeting Actions for S100WG and ENCWG			[S100WG Chair / ENCWG Chair]
16. Date and Venue of Next S100WG and ENCWG Meetings			[S100WG Chair / ENCWG Chair]
17. Close of Meeting			[S100WG Chair / ENCWG Chair]

Annex E

List of Participants

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