

## TSMAD 13 Minutes

Wellington, New Zealand

18 to 22 September 2006

### Annexes

- Annex A – Agenda
- Annex B – List of Participants
- Annex C – List of Actions

### 1. Welcome

Mr. John Spittal (LINZ National Topographer/Hydrographer) welcomed members to Wellington and noted that, as a maritime state, the working group activities was of significant importance to the New Zealand Hydrographic Office. The chairman thanked Land Information New Zealand (LINZ) for their hospitality and especially Teresa Kinset for her excellent logistics support.

### 2. Approval of Agenda

The agenda was approved without objection, however Canada noted that some of the items for discussion were submitted after the due date and should have been included under “Any other business.”

### 3. Minutes of the 12<sup>th</sup> Meeting.

The minutes of the 12<sup>th</sup> TSMAD meeting were accepted. Peter Parslow (UK) requested that the section dealing with the “Discussion about FOID” (para 9.1) should be changed so as to not prohibit being used for feature to feature relationships. This was agreed and the minutes would be changes accordingly.

### 4. Matters arising from the 12th TSMAD Meeting

Item 6.3.2 S-58 group to devise a new test. Done

Item 6.4.1 Australia to prepare a FAQ for encoding AIS information. Still under development. More experience with encoding AIS is needed.

Item 6.5.1 S-58 to include a test that checks for the correct format of the DSID:COMT field. Done.

Item 6.6.1 Prior to, or upon publication of the S-57 Supplement No1 (Edition 3.1.1) document, the following actions are to be completed;

- For each new object and attribute, an Encoding Bulletin and possibly FAQ will be issued to assist with the interpretation and to provide encoding advice –

Required Action: draft encoding bulletins (by AU) to be reviewed by the new Encoding Bulletin SubWg (see section 14, paragraph 2 below).

- C&SWG to be advised. Done
- Notification letter to IEC TEC80 WG7. Done
- IHO Circular Letter to be issued. Done (CL/97/2006)

Item 8.1.4.1 UK to provide advice to the WG on an appropriate format to insert the new objects and attributes into the IHO Register with a “proposed” status tag. Done (in the documentation only).

Item 8.1.4.2 Canada volunteered to offer advice based on the experiences with the ICE Register.

Ongoing – will be completed when the registry is finalized. It is likely that Thomas MELLOR (UK) will be the registry manager.

Item 8.1.5 Joint TSMAD / SNPWG meeting. Germany noted that good progress had been made within the SNPWG working group and the requirement to have a combined meeting was no longer as urgent.

Item 8.4 Australia needed to prepare report on M-4 issues for S-100 and S-101. As M-4 is presently undergoing a major review this item is ongoing, however papers TSMAD13-9.2Rev1 and 9.2A were prepared. Ongoing

Item 8.4.1 FAQ coordinator (Jeff Wooten AU) and Chair. Australia proposed that TSMAD should form a sub working group to deal with ENC encoding issues and should consider this item.

Item 9.1 The following actions were agreed:

a. Australia to draft a FAQ response. Not done, as it was considered that this should be an encoding bulletin. To be referred to the proposed appropriate sub WG to develop an encoding bulletin for 3.1.1. Action Items at "b" to "e" below will not be required until this has been completed.

b. SevenCs to develop a small test data set that crosses the 180° longitude line. Not done.

c. Should also be included in the IHO Test Data Set. Ongoing

d. Chairman to write a letter to IEC WG7 to include a type approval test relating to a cell that straddles 180° longitude. Still to be done.

e. Germany to carry out test using the data set that straddles 180° longitude through various ECDIS within their type approval group. Done

Item 9.2 USA NOAA to develop an Encoding Bulletin on this matter. Done

Item 9.3 Chairman to respond to PRIMAR that "\_" is currently not allowed in ENC filenames until the next Edition, as noted in 1.Co.32. Done. Action: Australia to prepare a FAQ on the "\_" issue. Ongoing

Item 9.4 Germany to prepare an Encoding Bulletin describing a method for encoding this information.

The S-58 group to modify the tests with a WARNING message being shown. Done

Item 11.2.1.2 South Africa will send a test data set to IC\_ENC to review the display issues in various ECDIS. It was pointed out that this issue was resolved when using the latest edition of the Presentation Library. Ongoing - Australia recommended that this should however be brought to the attention of the C&SMWG. Action: Australia to raise this at the next C&SMWG meeting.

Item 11.3 Current S-58 test #503 issues a WARNING rather than an ERROR. Done

## **5. Reorganization of TSMAD.**

The chairman proposed that there was no longer a requirement to have two separate meetings, as the S-100 development work presently constitutes the major activity of TSMAD. He requested that consideration should be given to an annual TSMAD meeting that will review the activities of the component work items from development groups. The work item groups will need to organize their work programs and schedules in order to achieve their goals. Germany noted that the time required for the TSMAD meeting should not be shortened as this will still provide a forum for discussion and for component editing meetings. It was agreed that TSMAD's primary role would now be to coordinate the development of S-100 and any associated product specifications and that the former TSMAD S-57 Extensions (S-100) Sub WG would cease as a separate Sub WG.

## **6. S-57 Edition 3.1.1**

6.1 The chairman thanked Australia for the considerable work that had been put into the S-57 Supplement No1 (Edition 3.1.1) document. Australia (CR) noted that it had been circulated to TSMAD and C&SMWG members, and he had received a good response and positive feedback. He noted that the NEWOBJ object was only to be used in the case where there was a need to encode a "safety critical" feature that could not be encoded using any existing object. Furthermore, it was agreed that it was highly unlikely that this new object class would be used before the release of S-101. UK highlighted some text that may result in misinterpretation, and a breakout group was formed to modify this.

6.2 Document TSMAD13-6.1 Report to TSMAD and CSMWG summing up replies to TSMAD Letter 03-2006 and CSMWG Letter 01-2006 regarding the proposed S-57 Supplement No1 (Edition 3.1.1). Australia (CR) outlined responses that had been received in response to these letters.

6.3 Following the work carried out by the breakout group, Chris Roberts reported that all S-52 content (Section 6) had been removed. The document was approved and would be submitted to the CHRIS for final approval.

6.4 Document TSMAD13-6.4 lists the responses to a second CSMWG letter to members and included a number of recommendations for both TSMAD and CSMWG. CR reported how the S-57 Supplement was distributed to all CSMWG members via a second letter with various questions, particularly about the optional symbolization of NEWOBJ. There was full agreement to this option being made available.

6.5 Document TSMAD13-6.5 is the updated draft of the S-57 Supplement No1 following the adoption of the new attribute SYMINS by C&SMWG members.

## **7. S-57 Booklet**

7.1 The Chairman noted that as a result of several changes to the structure of the S-57 component documents, the booklet had undergone many changes and he questioned whether it was still relevant. Australia proposed that it should be withdrawn and recommended that information about the various S-57 documents and associated resources should be developed as a web resource. This should provide information about the new 3.1.1 document, FAQs, and Encoding bulletins. IHB noted that as a result of the inclusion of numerous ENC related topics on the IHO web site, S-57 and encoding information is sometimes difficult to locate and suggested that a review and restructuring of the appropriate sections of the web site should be undertaken.

**Action: Booklet to be removed and relevant sections of the IHO web site to be revised/restructured. (IHB, Australia, New Zealand, UK).**

## **8. ENC - FAQ and Recommended Practices – Encoding Bulletins.**

8.1 Australia presented a proposal for an ENC Encoding Bulletin concerning Port Entry Lights (PEL) (See document TSMAD13-8.1). It was decided that this proposal needed some additional work and should be referred to the FAQ and Encoding Bulletins sub working group.

**Action: Australia to draft a proposal concerning the encoding of PELs for consideration by the FAQ / Encoding Bulletins sub WG.**

8.2. France proposed a new ENC Encoding Bulletin Encoding providing guidance for linear maritime boundary (LMB) (See document TSMAD13-8.2). NOAA proposed that they should be referred to as maritime limits. Australia noted that the term “boundary” was consistent with INT-1, M-4 and the UOC, and should be used.

**Action: France, Australia, and US Coast Guard, to investigate further and provide recommended term (boundary/limit).**

**Action: It was also proposed that the C&SMWG should be consulted regarding the symbolization of EEZ. (Chairman)**

8.3 Australia outlined the proposals for Encoding Bulletins associated with ASLs, ESSAs and PSSAs and S-57 Supplement No 1 (Edition 3.1.1) (See document TSMAD13-8.3). It was decided that this should be referred to the FAQ and ENC Encoding Bulletins working group for further consideration.

**Action: Sub WG to provide further advice on how to provide notification of the inclusion of these features through the use of Notices to Mariners.**

**Action: The Sub WG is also to revise the web pages containing the FAQ and Bulletins (see also 8.7 below).**

8.4 Proposal to discuss the encoding of Automatic Identification System (AIS). (Document TSMAD13-8.4). Australia enquired whether any HOs were encoding AIS information using SISTAT or SISTAW. C-Map noted that it could be included using a navigational object (e.g. radio station). It was decided that more experience was needed. Members should discuss this within their organizations and, should for the time being use “INFORM” on the master object.

**Action: An encoding Bulletin is to be developed providing advice on the use of INFORM by the Encoding Bulletins sub group, until such time as more experience with AIS is gained.**

8.5 Correction to S-58 tests 506 and 1729 (Document TSMAD13-8.5). NOAA noted that when “unknown” is used for beacon colour, it causes a validation error, and therefore requested that the S-58 test 506 be amended to a “warning” or to state that ‘unknown’ is acceptable. NOAA recommended that the S-58 test 1729 be amended to state: “Mandatory attributes must be encoded with explicit values (including ‘unknown’)”. See conclusion at 8.6 below.

8.6 NOAA outlined the proposal for a new ENC Encoding Bulletin for IALA-B Daymarks (See document TSMAD13-8.6) and noted that they encode topmarks using DAYMAR in the IALA-B system as defined by their United States Coast Guard Federal Regulations.

Conclusion: TSMAD recommended that NOAA should consider using “TOPMAR” as this was the consistent practice, and should (in the interim) accept the “warning” caused by the validation software. Australia noted that some validation software manufacturers would customize their applications so as not to report warnings for known special instances such as this.

8.7 Proposed Encoding Bulletin for Wrecks (See document TSMAD13-8.7)  
Australia presented a revised form of the Encoding Bulletin concerning WRECKS (CATWRK). This led to a discussion about the possibility of introducing a dynamic “Use of the Object Catalogue” document. US (NGA) noted that MGCP had implemented dynamic documents and recommended that the MGCP website should be consulted.

**Action: It was decided that the Encoding Bulletin could not be implemented in its present format and should be referred to the Encoding Bulletin Sub WG. A simplified version is to be developed for consideration.**

8.8 A proposal for an Encoding Bulletin and a FAQ relating to Radar Reflector object (RADRFL) and S-58 (check 1721) was accepted.

A proposal for an Encoding Bulletin and a FAQ relating to Daymark object (DAYMAR) and S-58 (checks 1722 and 1725) was accepted.

**Action: Encoding Bulletins Sub WG to put into correct format and send to the IHB for posting on the web site.**

8.9 FAQ for Differential GPS – accepted for a FAQ.

**Action: Australia to develop a FAQ for this and CSMWG and CSPCWG to be informed.**

## **9. Reports from other IHO Working Groups**

9.1 Colours and Symbols Maintenance Working Group (C&SMWG) (TSMAD13-9.1.pdf)

Chris Roberts (C&SMWG secretary) provided a report on the activities of the WG and highlighted the need for better coordination between the C&SMWG, CSPCWG and TSMAD especially considering that all three groups are involved in ongoing standards development work. He proposed that there was a need to have a coordination mechanism with other groups such as IEC and IMO and recommended that CHRIS should consider the reestablishment of the Harmonizing Group of Experts (HGE).

**Action: Chairman to raise the issue of re-establishing the HGE and to request that this group should revisit the 61174 publication in order to “tighten up” ECDIS type approval.**

**Action: Encoding Bulletins Sub WG reviewer the CSMWG proposals in Annex A to the reference paper.**

C&SMWG are producing S-52 Chart Presentation Bulletins (CPBs). The first one has been prepared resulting from the testing of ‘unknown objects’. Barrie Greenslade also noted that C&SMWG were going to develop a registry of S-52 symbols and this may have an impact on S-100 development work.

9.2 Report on the Chart Standardization and Paper Chart Working Group (CSPCWG).

Chris Roberts (Australia) reported on the activities of the CSPCWG and highlighted some of the issues that may influence the work of TSMAD. These are included in paper TSMAD13-9.2Rev1. A major review of M-4, Part B is being undertaken. This is a foundation document for the S-57 Use of the Object Catalogue and will influence S-101. Australia noted that there are a number of issues that need to be considered. Furthermore it was recommended that CHRIS should consider reconstituting the DQWG to look at data quality metadata issues for S-100. BG noted that data quality should also be an issue for consideration by the S-44 WG.

**Action: TSMAD Chairman to recommend this to CHRIS and S-44 WG.**

**Action: Issues within the body of the paper TSMAD13-9.2Rev1 to be addressed by the new S-101 SubWG**

9.3 Report on the Standardization of Nautical Publications Working Group (SNPWG).

The chairman of this group Johannes Melles (Germany) reported that the group had held two meetings during the year. The scope document (available from the IHO website) has been completed. Work on modelling related services and identifying the required objects and attributes is progressing well. This task is being undertaken by regional groups arranged into the following geographic areas by the Americas, Western Europe and Northern Europe. Their requirement for new objects and attributes will be submitted as meeting proposals to TSMAD in 2007 for the FDD. The S-100 concept of an information object has been used by this group. Currently SNPWG have identified 46 new attributes, 3 new info objects and 3 new geo objects, however it is expected that about 30 new object classes and 50 new attributes will be required. It is proposed that the SNPWG will require their own independent register which will be managed by this group. The goal is to complete their work by end 2007 (Feb 07 in Rostock and later in the year in the USA). A new paper on this topic entitled “Thoughts on Improvements to be considered by IHO TSMAD as part of S-100 and S-101 development”, was made available at the meeting by CARIS.

9.4 IC-ENC/Primar Stavanger Technical Experts Working Group (TEWG) meetings.

Richard FOWLE (IC-ENC) reported that Primar Stavanger and IC-ENC had held Technical Experts Working Group meetings followed by a joint meeting. An important topic discussed was the implementation of the ENC encoding consistency recommendations. This focused on what progress had been made, and what constraints were being encountered. The meeting also tried to establish what help was needed to facilitate the process of ENC consistency. IC-ENC reported that they are working hard to encourage HOs to comply with the ENC consistency paper. IC-ENC will also develop further SCAMIN guidance information and it is anticipated that this could also be used for S-101. Eight

participating nations sent their own consistency procedures to IC-ENC for consideration. Features crossing cell boundaries needs further work to harmonize consistency.

9.4 Report on the Hydrographic Interoperability Harmonization Working Group (HIHWG).  
Barrie Greenslade reported that the final meeting of this WG took place in Ottawa during August. Kathy Joe CHANCE (NGA) noted that the HIHWG had also participated in the Hydro metadata profile and reported that preliminary conformance tests had been carried out and initial results were very positive. Additional tests on ENC / DNC interoperability had also been carried out for proof of concept.

## 10. S-100 Topics.

### 10.1. Report and minutes from Brest meeting.

#### Action Items

- Action at 2.1: Registry and Object Catalogue - all register managers to be contacted. Ongoing.
- Action: 2.5 Two sets of comments were received. The document needs to be circulated for final comment, with the understanding that non-returns will be accepted as agreement to the document. Done.
- Action: 9.1 The chairman requested members to give further consideration to what should appear in an S-101 catalogue file. RENC members were requested to discuss these issues with their respective agencies and report any new requirements to the next Sub WG meeting. Ongoing
- Action: 7 Chris Roberts to communicate to C&SMWG problems with ECDIS not displaying ENCs with compilation scale being set to radar ranges. Done.
- Action: 7 Proposal by Portugal – Chair thanked Portugal and informed them that their proposal could not be included in 3.1.1.
- Action: 9.1 Richard Fowle and Odd Fore to seek the opinion of IC-ENC and PRIMAR respectively. - Ongoing
- Action: 9.1 Hierarchy of metadata. Need to look at the data quality working group and S-44 for data quality issues. Ongoing - to be done with metadata part 2.
- Action: 9.1 Encryption. Barrie Greenslade to inform CHRIS chair that TSMAD are to exclude encryption in S-101 with the expectation that this will be dealt with by the DPSWG. Done
- Action: 9.1 Extensions and Corrections from previous meetings. Chris Roberts to send these to the new WI leader, and the IHB for inclusion on the development site. Done – IHB to put on the development pages.
- Action: 9.1 Extensions and Corrections from previous meetings. Information paper on S-101 to presenting these some of these concepts to be developed by Chairman. Paper to be placed on the OEF and IHB web sites when complete. Ongoing.
- Action: The use of SCAMIN. IC-ENC to lead Focus group tasked to examine how SCAMIN should be applied in S-101. Ongoing.
- Action: 9.2 TSMAD required a definitive list of roles and associations / aggregations that need to go into the FDD. Start with UOC and 'must' statements. Done.
- Action: 9.2 Barrie Greenslade to contact domain experts to identify the types of associations presently being used for encoding ENCs. Done
- Action: 13 Peter Parslow to check for other list features where order may be important. – Done
- Action: 14.5 Chris Roberts to keep TSMAD informed of looming issues. – Done

### 10.2. Meta Component - Part 1 (Editing Committee).

Almost a hundred comments had been received (from UK, USA, New Zealand and Canada) on the metadata profile distributed in August for comment. Many of these were duplicate comments or minor editorial comments and were presented by Tony Pharaoh (IHB). Additional comments provided during the editing session included:

- The profile should include some additional UML diagrams.

- Section 9 should be moved to a new annex at the back of the document (with the exception of sections 9.2, 9.4, and 9.6).

- Additional examples (paper charts and nautical products) should be included. (The document is to be sent to Canada, US NGA, UK, and New Zealand for initial comment before distribution).

### 10.3. Review of FDD definitions

Compilation and review of definitions was done under contract. This included a review of feature and attribute definitions. It was noted that this should be reported to the S-32 working group. The Chairman recommended that they should be accepted as they are, and then update them as needed. The chairman also noted that within ISO, feature data dictionaries were being referred to feature concept dictionaries, and there is a need to decide on what term IHO will adopt.

**Actions: Send spreadsheets to S-32 WG requesting that they include and harmonize as appropriate. UK to update the definitions in the registry.**

### 10.4. GML Encoding.

UK presented the work on GML schemas and outlined the schemas provided for the AML work. It was noted that higher levels of topology, that make provision for shared geometry, could also be accommodated. NZ noted that it was important that the modelling should be well documented in order to substantiate the GML encoding.

### 10.5. Spatial Component.

A brief status report for the Spatial component was provided by UK noting that these were being developed in cooperation with DGWIG. The 2D profile was almost complete, and there were a few minor issues to be resolved with the 3D profile.

### 10.6. FDD Component.

UK noted that the registry containing the FDD was virtually complete. The latest draft text of the Registry / FDD component would be reviewed later in the meeting during the planned editing session.

### 10.7. Framework Document

Review new draft version of Framework document. Peter Parslow (UK) raised a number of questions regarding the framework component document. These are listed below:

10.7.1 Question at 1.1 Quality (5.6, 6.4.3). Peter Parslow (PP) questioned whether there will be an IHO Quality profile, relating to ISO 19113 and 19114. It was concluded that this would be required – quality metadata will be derived from this. Feature and attribute quality metadata should be inherited from survey sources (S-44).

10.7.2 Question at 1.2 Portrayal (5.9, 6). Should portrayal information be included within the dataset? It was agreed that there may be a requirement to include portrayal information in a dataset. What associations might be needed in the data to support portrayal? Do we simply specify that these associations shall be catalogued in the product specification? Although portrayal should be separate from the data, there may be some instances where related information (such as SCAMIN) will need to be encoded within the data.

10.7.3 Question at 1.3 Encoding (5.10, 6.2, 6.3.2). Clarification was required on whether within S-100 there will be a requirement to have an IHO profile of ISO 8211 and 19136, or will that only be specified in each product spec? It was concluded that encoding information would have to be included for both S-100 and S-101. Further investigation on how to profile 19136 was needed.

For GML encoding is there a need for a model driven architecture i.e. (UML + hints in the FDD -> GML)? It was concluded that TSMAD is not yet in a position to decide how to implement GML. Should S-100 lean towards strong typing or weak typing for GML or should these be specified within the product specifications?

No agreement could be reached on which way to go at this stage however it was thought that an approach may be to have a basic GML profile in S-100 with more specific definition in the Product Specification.

10.7.4 Question at 1.4 How should the relationship to the spatial component be documented? It was not possible to decide on this at this stage however it was noted that the examples of application schemas that are in the IGD document, need to be put into the Framework document.

10.7.5 Question at 1.5 - Feature/Object Model. Is there a need for the attribute (code) be unique in the context of an object? (e.g. COMCHA, RADWAL). It was agreed to make provision for multiple attributes of the same type but restrict this in the product specification (This may cause problems for updates for ENC).

- Should Geometry objects which aren't associated with any Feature Object be allowed? It was agreed that this should be allowed.
- Should a Feature Object be able to belong to more than one theme? It was agreed that this should be possible.
- Should S-100 lean towards strong typing or weak typing? The present approach leans towards weak typing, however it was agreed that there should be a leaning towards strong typing in the product specification.
- Given how much the S-100 model diverges from 19109, is this acceptable for S-100. (see Fig 9). It was agreed that the S-100 model should be accepted as is.

Other aspects of the logical model that were discussed included:

- S-100 employs three approaches for modelling properties: simple attributes, complex attributes & "information objects"; Should this be maintained or should this be reduced to two (simple, info) or even just one (info)? It was decided that this needs to be looked at more carefully and the implications of information objects needs further study.
- Two approaches to languages have been included; How should this be handled? Should one main language be chosen, and an information object approach be used for others? In such a case we may be necessary to tie down exactly how that works. It was agreed that S-100 should continue to describe both approaches. There will also need to be a discussion about character repertoire..
- How will associations & roles be registered? Named roles should be in the register, and associations will be named by implication.
- Is there a requirement for more detail on registers of attribute values? It was agreed that this was not required.
- How will coverage feature types be registered (depth area with a geometry of type TIN, vs TIN of depth measurements)? Are they geometry or feature type classes? These should be in the register and as feature types.
- What's the relationship between the Framework Document & the IGD component?
- Should S-100 include "vague geometries", e.g. for SD passages? After discussion it was concluded that this could be done using a spatial attribute (e.g. vague). There may also be a need for a feature to specify what it will use a certain type of geometry for. It was also decided to make a link between the feature and geometry using an association.

#### 10.7.7 Question about allowable types at 1.7

What data types should be allowed - should time & date types be included? It was agreed that these should be included if necessary. They could be included as a list (in the register) of types that products reference.

What should be done with S-57 formatted strings? It was decided that a small focus group was needed to look into coded strings. A preliminary list was produced during the meeting.

Should XML coded strings (with schema & style sheet) be included, either "in the data" or as external files? It was agreed that this may be a requirement from SNPWG and may also encourage OEMs to embed a browser in their applications. It was agreed that this should be included at the S-100 level.

#### 10.7.8 Metadata (1.8)

Should Annex C be dropped from the Framework Document, as/when the Metadata component matures? This should be done after the metadata part 2 has been completed.

#### 10.7.9 Themes (1.9)

Shall we settle on a single way to model themes? Choice: feature collections, aggregation, inheritance, group attribute? Should a Feature Object be able to belong to more than one theme?

#### 10.7.10 Inheritance (1.10)

Will this be shown in the FDD, or can it be in the Product Specification, although it won't appear in the product datasets? After discussion it was decided that this needed further consideration. Inheritance could relate to different buoys for example. Ideally it should be implemented in the FDD and not product specification.

### 10.8 Tidal Presentation

UK (Thomas Mellor) provided a presentation on the development of an exchange format for the exchange of tidal constituent data in response to a request from the IHO Tidal committee. It is anticipated that this XML format could be included as an S-100 profile. A number of suggestions were proposed by the working group for additional issues that need consideration. These are listed below:

- There may be a need for unique IDs for tidal stations.
- A port should be a tidal station.
- Units need to be better defined by either:
  - Declaring the units in the product specification
  - Perhaps declaring them in the file header
  - Declare them in the header and in the data where it differs from the header.
- CRS (for tide gauge position information needs to be defined.
- Format and resolution of units needs to be described (position, angles etc ...)
- Need to include metadata.
- Need to describe the model in UML.
- UK (PP) to assist with a UML encoding/schema.
- What about nodal corrections?

### 10.9. Develop detailed strategy and timeline for S-101

The Chairman noted that S-100 was still on track for completion by December 2007. There were still a number of issues for consideration.

- A portrayal catalogue could be part of the ENC exchange set transfer package to be distributed with the encoding (Feature Catalogue) and the application scheme (content and structure).

- GML will not necessarily apply to S-101, but it may be necessary to develop a GML test implementation for S-101 data not necessarily for ECDIS.

- Real time data needs to be considered but will probably be separate layers for ECDIS?

- There is a need to improve the use and update mechanism for text and picture files within ECDIS.

This will need to be a topic for C&SMWG combined meeting

- Themes and grouping needs to be considered. For consideration at the combined C&SMWG meeting.

- There will be a need to start interaction with related agencies, mariners and training institutions. There may also be a need to hold workshops for all players (Perhaps Rotterdam Sept 2007).

## **11. National Proposals.**

## **12. TSMAD Input to IHO Work Programme.**

### 12.1. Task Identification Form

12.2. IHO 5-Year WP: The chairman noted that he and the vice chair would be attending the CHRIS meeting during the following week and would be submitting the TSMAD work programme. He noted that there was also a need to provide an estimate of cost to carry out the development work. The deputy chair noted that the date of late 2007 was still on track for the completion of S-100.

## **13. CHRIS 18 Issues**

13.1 The Chairman and Vice chairman would be attending the CHRIS meeting following the TSMAD meeting and would report on the work programme, as well as the decisions and discussion of the meeting. The S-57 3.1.1 document will also be presented.

## **14. Any Other Business.**

### 14.1 S-58 Edition 3 – Third Draft (*TSMAD13-14.1\_S58\_Ed3.zip*)

S-58 group managed to complete the new version of this document. After the E3.1.1 has been approved (by CHRIS), the document (S-58) will be distributed to TSMAD members for final approval by TSMAD circular letter, after which it will be published. Furthermore it was decided to constitute a formal S-58 sub WG (under the coordination of Guy Uguen) to maintain the document.

14.2 It was also decided to form a sub WG to deal with Encoding Bulletins and FAQs. The following members volunteered to participate in this Sub WG – Finland, US, South Africa, Canada, Australia, IC-ENC. US volunteered Travis Newman as coordinator of this new combined FAQ / Encoding Bulletins group.

***Action: Australia (Chris Roberts) to compile a list of outstanding issues that need to be sorted out by this group.***

14.3 Australia reminded the meeting that the CSPCWG had requested that TSMAD review changes to M-4 in order that their impact on ENC's are considered before being implemented by CSPCWG. It was decided that CSPCWG Letters should go to the new ENC Bulletin sub WG for reviewing and any reply comments would be signed off by the TSMAD Chair.

14.4 South Africa questioned whether to unfreeze the Use of the Object Catalogue document. The meeting decided unanimously that this should not be done. The freeze was previously approved by TSMAD?

## **15. Election of new TSMAD Chair and Vice Chair and secretary.**

15.1 Mike Brown (US) noted that he would be stepping down as chairman and the meeting needed to elect a new chairperson. The existing Vice chairman Barrie Greenslade offered to take over the role of chairman and noted that he would be prepared to continue this task until the publication of S-100 in late 2007. Done Vachon (Canada) accepted to act as vice chairman. Both candidates were accepted by the meeting. It was also noted that the existing secretary (Ian Halls) was no longer able to continue as secretary of TSMAD, and it was therefore decided that in light of the amalgamation of the S-100 Sub WG work under the main TSMAD forum, this task would be taken over by the exiting S-100 Sub

WG secretary - Tony Pharaoh (IHB). It was also decided that a new activity and position to coordinate the S-100 development activities and the consolidation of component documents would be undertaken by Julia Powell (USA).

**16. Date and place of meetings for 2007- 2008.**

Tentative dates and venues for future TSMAD meetings are as follows:

- TSMAD 14 – May/June 2007 – Taunton UK
- TSMAD 15 – November/December 2007 – South Africa (SANHO) or Monaco (IHB).
- TSMAD 16 – May/June 2008 – Ottawa (Canada CHS).

**DRAFT AGENDA**  
(Version 30 August 2006)

- 1. Opening and Administrative Arrangements**
  - 1.1. List of Documents (*TSMAD13-1A.pdf*)
  - 1.2. List of Participants (*TSMAD13-1B.pdf*)
- 2. Approval of Agenda**
  - 2.1. Agenda (*TSMAD13-2.pdf*)
- 3. Minutes of the 12th TSMAD Meeting, 11 – 12 November 2004, IHB, Monaco.**
  - 3.1. Minutes (*TSMAD13-3A.pdf*), (*TSMAD13-3B.pdf*)
- 4. Matters arising.**
- 5. Reorganization of TSMAD.**
  - 5.1. Discussion on elimination of Sub WG
- 6. S-57 Edition 3.1.1**
  - 6.1. Results of voting on Supplement No. 1 (Edition 3.1.1)(CR) (*TSMAD13-6.1.pdf*)
  - 6.2. Discussion/Resolution of remaining issues (ENC Encoding Bulletins, procedures for the use of **NEWOBJ**) (CR)
  - 6.3. Approval of final document (See also 6.5)
  - 6.4. Update to CSMWG Report relating to the S-57 Supplement No1 (*TSMAD13-6.4.pdf*)
  - 6.5. Enhancements Required to Encode S-57 Edition 3.1.1 ENC Data (*TSMAD13-6.5Ver7.doc*)
- 7. S-57 Booklet**
  - 7.1. Discussion of future of booklet: revise, replace, discontinue
- 8. ENC - FAQ and Recommended Practices – Encoding Bulletins.**
  - 8.1. Draft ENC Encoding Bulletin - Port Entry Lights (PEL) UKHO (*TSMAD13-8.1.pdf*)
  - 8.2. Encoding guidance for Linear Maritime Boundary (LMB) SHOM (*TSMAD13-8.2.pdf*)
  - 8.3. Proposed Encoding Bulletins for ASLs, ESSAs and PSSAs and S-57 Supplement No 1 (Edition 3.1.1) (*TSMAD13-8.3.pdf*)
  - 8.4. Automatic Identification System (AIS) (*TSMAD13-8.4.pdf*)
  - 8.5. Correction to S-58 tests 506 and 1729 (*TSMAD13-8.5.pdf*)
  - 8.6. Proposed new ENC Encoding Bulletin for IALA-B Daymarks (*TSMAD13-8.6.pdf*)
  - 8.7. Proposed Encoding Bulletin for Wrecks (Australia) (*TSMAD13-8.7.pdf*)
  - 8.8. Proposals Relating to S-58 tests 1721, 1722 and 1725 (*TSMAD13-8.8.pdf*)
  - 8.9. FAQ Items**
    - 8.9.1 FAQ for Differential GPS (Australia) (*TSMAD13-8.9.1.pdf*)
- 9. Reports from other IHO Working Groups**
  - 9.1. Colors and Symbols Maintenance Working Group (C&SMWG) (CR) (*TSMAD13-9.1.pdf*)
  - 9.2. Chart Standardization and Paper Chart Working Group (CSPCWG) (CR)(*TSMAD13-9.2Rev1.pdf*) (*TSMAD13-9.2A.xls*)
  - 9.3. Standardization of Nautical Publications Working Group (SNPWG)(JM)
  - 9.4. IC-ENC/Primar Stavanger Technical Experts Working Group (TEWG)
  - 9.5. Hydrographic Interoperability Harmonization Working Group (HIHWG)(BG)
- 10. S-100 Topics.**
  - 10.1. Report and minutes from Brest meeting
  - 10.2. Part 1Meta component (Editing Committee)
  - 10.3. Review of FDD definitions

- 10.4. GML Encoding
- 10.5. Review new draft version of Spatial component
- 10.6. Review new draft version of FDD component
- 10.7. Review new draft version of Framework document
- 10.8. Review new product specification for transfer of Tidal Harmonics
- 10.9. Develop detailed strategy and timeline for S-101
- 10.10. Future programme of work
- 10.11. Review Workplan and timescales

**11. National Proposals.**

**12. TSMAD Input to IHO Work Programme.**

- 12.1. Task Identification Form
- 12.2. IHO 5-Year WP

**13. CHRIS 18 Issues**

**14. Any Other Business.**

- 14.1 S-58 Edition 3 – Third Draft (*TSMAD13-14.1\_S58\_Ed3.zip*)

**15. Election of new TSMAD Chair and Vice Chair and secretary.**

**16. Date and place of meetings for 2007- 2008.**

**Note: Late submissions – to be considered during ‘Any Other Business’**

## LIST OF PARTICIPANTS

Country/Member States	Name	E-mail
Australia	Chris ROBERTS Peter GALLAGHER	<a href="mailto:Chris.Roberts@defence.gov.au">Chris.Roberts@defence.gov.au</a> <a href="mailto:Peter.Gallagher@defence.gov.au">Peter.Gallagher@defence.gov.au</a>
Canada	Don Vachon	<a href="mailto:VachonD@DFO-MPO.GC.CA">VachonD@DFO-MPO.GC.CA</a>
Denmark	Carsten RIISE-JENSEN	<a href="mailto:cr@kms.dk">cr@kms.dk</a>
Finland	Jorma TIMONEN	<a href="mailto:jrma.timonen@fma.fi">jrma.timonen@fma.fi</a>
France	Guy UGUEN Mikaël LE GLÉAU	<a href="mailto:uguen@shom.fr">uguen@shom.fr</a> <a href="mailto:legleau@shom.fr">legleau@shom.fr</a>
Germany	Johannes MELLES	<a href="mailto:johannes.melles@bsh.de">johannes.melles@bsh.de</a>
Japan	Takayuki KAWAI	<a href="mailto:takayuki-kawai@kaiho.mlit.go.jp">takayuki-kawai@kaiho.mlit.go.jp</a>
New Zealand	Andrew SHELLEY Adam GREENLAND Mike FARRELL Richard MURCOTTE	<a href="mailto:andrew.shelley@nzdf.mil.nz">andrew.shelley@nzdf.mil.nz</a> <a href="mailto:agreenland@linz.govt.nz">agreenland@linz.govt.nz</a> <a href="mailto:mfarrell@linz.govt.nz">mfarrell@linz.govt.nz</a> <a href="mailto:rmurcott@linz.govt.nz">rmurcott@linz.govt.nz</a>
Norway	Odd Aage FØRE	<a href="mailto:Odd-Aage.Fore@statkart.no">Odd-Aage.Fore@statkart.no</a>
South Africa	Sydney OSBORNE	<a href="mailto:hydrosan@iafrica.com">hydrosan@iafrica.com</a>
Sweden	Hans ENGBERG	<a href="mailto:hans.engberg@sjofartsverket.se">hans.engberg@sjofartsverket.se</a>
UK	Barrie GREENSLADE (new Chair) Peter PARSLOW Thomas MELLOR Tim LEWIS	<a href="mailto:Barrie.Greenslade@ukho.gov.uk">Barrie.Greenslade@ukho.gov.uk</a> <a href="mailto:Peter.Parslow@ukho.gov.uk">Peter.Parslow@ukho.gov.uk</a> <a href="mailto:Thomas.Mellor@ukho.gov.uk">Thomas.Mellor@ukho.gov.uk</a> <a href="mailto:tim.lewis@ukho.gov.uk">tim.lewis@ukho.gov.uk</a>
USA/USCG	Shawn FREEMAN	<a href="mailto:Shawn.D.Freeman@uscg.mil">Shawn.D.Freeman@uscg.mil</a>
USA/NOAA	Mike BROWN (former Chairman) Julia POWELL	<a href="mailto:Mike.Brown@noaa.gov">Mike.Brown@noaa.gov</a> <a href="mailto:Julia.Powell@noaa.gov">Julia.Powell@noaa.gov</a>
NGA/USA	Kathy Joe CHASE	<a href="mailto:Simmonskj@nga.mil">Simmonskj@nga.mil</a>
<b>Industry</b>		
Australia	Frank HIPPMANN (HSA)	<a href="mailto:franck@hsa.com.au">franck@hsa.com.au</a>
Canada	John CONYON (IIC)	<a href="mailto:ConyonJ@dfo.mpo.gc.ca">ConyonJ@dfo.mpo.gc.ca</a>
Canada	Cameron MCLEAY (CARIS)	<a href="mailto:cameron.mcleay@caris.com">cameron.mcleay@caris.com</a>
USA	Tom DE PUYT (ESRI)	<a href="mailto:tdepuyt@esri.com">tdepuyt@esri.com</a>
Canada	Eivind Eik MONG (C-Map/D-Kart)	<a href="mailto:emong@c-map.no">emong@c-map.no</a>
<b>IHB</b>	Tony Pharaoh	<a href="mailto:apharaoh@ihb.mc">apharaoh@ihb.mc</a>

## LIST OF ACTION ITEMS

### 7. S-57 Booklet

Action: Booklet to be removed and relevant sections of the IHO web site to be revised/restructured. (IHB, Australia, New Zealand, UK).

### 8. ENC - FAQ and Recommended Practices – Encoding Bulletins.

Action: Australia to draft a proposal concerning the encoding of PELs for consideration by the FAQ / Encoding Bulletins sub WG.

#### 8.2. France proposed a new ENC Encoding Bulletin Encoding

Action: France, Australia, and US Coast Guard, to investigate further and provide recommended term (boundary/limit).

Action: It was also proposed that the C&SMWG should be consulted regarding the symbolization of EEZ. (Chairman)

#### 8.3 Proposals for Encoding Bulletins associated with ASLs, ESSAs and PSSAs

Action: Sub WG to provide further advice on how to provide notification of the inclusion of these features through the use of Notices to Mariners.

Action: The Sub WG is also to revise the web pages containing the FAQ and Bulletins (see also 8.7 below).

#### 8.4 Proposal to discuss the encoding of Automatic Identification System (AIS).

Action: An encoding Bulletin is to be developed providing advice on the use of INFORM by the Encoding Bulletins sub group, until such time as more experience with AIS is gained.

#### 8.7 Proposed Encoding Bulletin for Wrecks

Action: It was decided that the Encoding Bulletin could not be implemented in its present format and should be referred to the Encoding Bulletin Sub WG. A simplified version is to be developed for consideration.

#### 8.8 Proposals for an Encoding Bulletin and FAQs relating to Radar conspicuous objects

Action: Encoding Bulletins Sub WG to put into correct format and send to the IHB for posting on the web site.

#### 8.9 FAQ for Differential GPS – accepted for a FAQ.

Action: Australia to develop a FAQ for this and CSMWG and CSPCWG to be informed.

#### 9.1 Colours and Symbols Maintenance Working Group

Action: Chairman to raise the issue of re-establishing the HGE and to request that this group should revisit the 61174 publication in order to “tighten up” ECDIS type approval.

#### 9.2 Report on the Chart Standardization and Paper Chart Working Group (CSPCWG).

Action: TSMAD Chairman to recommend this to CHRIS and S-44 WG.

#### 10.3. Review of FDD definitions

Actions: Send spreadsheets to S-32 WG requesting that they include and harmonize as appropriate. UK to update the definitions in the registry.

#### 14.2 Outstanding ENC Encoding Bulletins and FAQs

Action: Australia (Chris Roberts) to compile a list of outstanding issues that need to be sorted out by the new Sub WG.