

S-101 Product Specification Content Management TSMAD22/DIPWG3-11.3C

Clause	1	Overview			
Section	Heading	Content	Comments/Questions	Phase	FIN
1.1	Introduction		<ul style="list-style-type: none"> Needs to be written 	N/A	N
1.2	References		<ul style="list-style-type: none"> Needs to be written 	N/A	N
1.3	Terms, definitions and abbreviations		<ul style="list-style-type: none"> Needs to be fleshed out 	N/A	N
1.4	S-101 General Data Product Description	General Information	<p>S57 DELTA: changed the spatial extent from 90 degrees to 88. This will prevent ENC data from crossing the poles.</p> <p>TSMAD21: Change back to 90 Degrees</p>	1	Y
1.5	Data Product Specification Metadata	Identifies the product specification	<ul style="list-style-type: none"> Should we put the catalogue versions in this section as well as in the discovery metadata? <p>8/19/10: The maintenance of the product specification is referred to here and it refers back to the IHO TR</p> <p>ACTION: Clarify how upticks in the FC/PC are handled and released and does it cause a new P.S to be published.</p> <p>TSMAD21: Need to see the S-100 maintenance section.</p> <p>ACTION: Revise based on S-100 maintenance - DONE</p>	1	N
1.5.1	IHO Product Specification Maintenance	Identifies the maintenance definitions for S-101 and the version control.			

Clause	2	Specification Scopes			
Section	Heading	Content	Comments/Questions	Phase	FIN
2	Specification Scopes	Contains the scope of the product specification		1	N

Clause	3	Data Set Identification			
Section	Heading	Content	Comments/Questions	Phase	FIN
3	Data Set Identification	Identifies what the data set is, its intended use and the spatial resolution including the display scales aligned to RADAR ranges		1	Y
	Spatial Resolution	Identifies the optimum display scales for ENC.	<p>ACTION: What is meant by AHO's comment on intermediate display scales?</p> <p>S57 DELTA: Changed the name from Display scale to Optimum Display scale to align with the Swedish proposal.</p> <p>TSMAD 21: Simplified the language and it is now just called scale.</p>		

Clause	4	Data Content and structure			
Section	Heading	Content	Comments/Questions	Phase	FIN

4.1	Introduction	Introduction to data content and structure	<ul style="list-style-type: none"> Do we add the portrayal catalogue to the application schema? <p>8/19/2010: Portrayal Catalog does not go in here.</p>		
4.2	Application Schema	This will only contain a subset of the application schema	<p>8/19/2010: Recommended to include the S-100 GFM and constrain what is needed, this is a change from attempting to put examples in or modeling the entire FC in UML.</p> <p>ACTION: Will incorporate the S-100 GFM (only including what S-101 needs, will split out the features and the spatial)</p> <p>TSMAD21: Graphic supplied</p> <p>ACTION2: Check if everything is properly constrained.</p>	All	N
4.2.1	Feature	This will include the feature model of the GFM	<p>ACTION: Need words</p> <p>TSMAD 21: Clause Removed</p>	1	N
4.2.2	Spatial	This will include the spatial part of the GFM	<p>ACTION: Need words and the model.</p> <p>QUESTION: Would this be covered under the spatial section?</p> <p>TSMAD 21: Clause Removed</p>	1	Y
4.3	Feature Catalogue			1	
4.3.1	Introduction	Brief explanation of what the feature catalogue is			
4.3.2	Feature Types	This clause discusses the various feature		1	

		types allowed in S-101			
4.3.2.1	Geographic	Defines what a geographic feature type is			
4.3.2.2	Meta	Describes meta features	S57 DELTA: Mandatory features are defined in the FC and Encoding is in the DCCG.	1	
4.3.2.3	Aggregated	Defines Aggregated Features		1	
4.3.2.4	Theme Feature Types	Defines what theme feature types are, each clause below will define various themes	<ul style="list-style-type: none"> Do we have other use cases for themes? There may be one in the paper on pick reports. <p>Action: Discuss the following as a possible theme: Update theme – update text and what changed and it would be in a summary later, information to the end user what is contained in the change – similar to the text in a NTM, maybe almost ,like an update pick report. Need to give some guidance on how this should be used.</p> <p>TSMAD 21: Still do not have a solid Theme USE CASE. May remove this section.</p> <p>ACTION2: Discuss at TSMAD 22/DIPWG3</p>	1	
4.3.2.4.1	Skin of the Earth Theme		<p>ACTION: Need to create the skin of the earth theme.</p> <p>TSMAD 21: Still do not have a solid Theme USE CASE. May remove this section.</p> <p>ACTION2: Discuss at TSMAD</p>	1	

			22/DIPWG3		
4.3.3	Feature Relationship	Describes the types of feature relationships used in S-101	DISCUSSION NEEDED: Given that Info types can now have associations etc this may need to be widened to cover?		
4.3.3.1	Associations		TSMAD 21: UML needs revision. Barrie and Tom to have a think about this UML ACTION: BG/TR to have a think	1	
4.3.3.2	Aggregation			1	
4.3.3.3	Composition	Strong Aggregation – if one part is removed then everything is removed	ACTION: TSMAD 21 – the following is a business rule for production systems - eg. – if a the feature type TSS is deleted then all the component feature types that make up the TSS are deleted and this must be followed so the updates go out correctly.	1	
4.3.4	Information Types	Defines information types	<ul style="list-style-type: none"> link information types across multiple cells – look at the scale independent cell dedicated to information types option discussed sep. 2009 ACTION: EM/TR to replace UML	4	
4.3.5	Attributes	The clauses under this section describe the type of attributes		1	
4.3.5.1	Numeric Attribute Values			1	
4.3.5.2	Complex Attributes	Defines Complex Attributes	DISCUSSION NEEDED: TR – Could expand to explain multiplicity and sequence here	3	
4.3.5.3	Text Attribute Values			1	
4.3.5.3.1	Text Placement	Defines the use of cartographic attributes	TR – potential paper for TSMAD22	3	
4.3.5.4	Mandatory Attribute Values	These are defined in the feature catalogue		1	
4.3.5.5	Missing Attribute Values	Deals with how to handle unknown attribute values	<ul style="list-style-type: none"> At the Feature and Portrayal Catalogue review stage we need to look at the default symbol (?) and remove this and pick another 	1	

			<p>symbol for the unknown part of the attribute</p> <ul style="list-style-type: none"> • Also need to look at the mandatory attributes that drive portrayal • Discuss the addition of unknown as an attribute value <p>ACTION: The above are things that need to happen during FC/PC review</p>		
4.4	Feature Object Identifier	Each feature needs a unique FOID		1	
4.5	Scale Independent and Scale Dependent Cells		<ul style="list-style-type: none"> • Place holder until a TSMAD decision is made 	2	
4.5.1	Scale Independent Cell		<ul style="list-style-type: none"> • Place holder until a TSMAD decision is made 	2	
4.5.1.1	Scale Independent Cell content		<ul style="list-style-type: none"> • Place holder until a TSMAD decision is made 	2	
4.5.2	Scale Dependent Cell		<ul style="list-style-type: none"> • Place holder until a TSMAD decision is made 	2	
4.6	Optimum Display	Utilization of min and max display	<p>ACTION: Need to define what the new features are and explain in the PS.</p> <p>ACTION: Need to define the encoding</p> <p>ACTION: Need to define the portrayal</p> <p>ACTION: Need to define minimum implementation guidelines</p> <p>ACTION: redo graphic based on Sweden's Presentation.</p>	2	
4.7	Geometry	Describes the geometry to be used in S-101	<p>ACTION: BG needs to constrain this UML diagram.</p>	1	
	Level 3a - This is the allowed level of geometry in S-101. Constrains to Level 3a with an additional constraint of loxodromic and places an exception for soundings.				

Clause	5	Coordinate Reference Systems			
Section	Heading	Content	Comments/Questions	Phase	FIN
5.1	Introduction	Explanation that S-101 uses compound CRS		1	
5.2	Horizontal Coordinate Reference System	WGS84		1	
5.3	Vertical CRS for Soundings	Explains that there can be multiple Vertical CRS		1	
5.4	Coordinate Units	Allowable units of measure	<p>ACTION: Need to find a home for the following Units – Height, Positional Accuracy, Distance, Time and Bearings</p> <p>TSMAD 21: Meters is now specified in the vertical CRS – all other units specifications is in the DCCG.</p> <p>Clause Removed</p>	1	

Clause	6	Data Quality			
Section	Heading	Content	Comments/Questions	Phase	FIN
6.1	Introduction		ACTION: This entire clause has been referred to DQWG	2	
6.2	Quality, Reliability and Accuracy of Bathymetric Data				
6.2.1	Quality of bathymetric data				
6.2.2	Survey reliability				
6.2.3	Quality of sounding				

6.2.4	Sounding accuracy				
6.2.5	Technique of sounding measurement				
6.3	Accuracy of non-bathymetric data				
6.3.1	Quality of positions				
6.3.2	Horizontal accuracy				
6.3.3	Vertical accuracy				
6.3.4	Source of bathymetric data				
6.3.5	Source of other data				

Clause	7	Data Capture and Classification			
Section	Heading	Content	Comments/Questions	Phase	FIN
7.1	Introduction	The bulk of this is in an appendix		4	

Clause	8	Data Maintenance			
Section	Heading	Content	Comments/Questions	Phase	FIN
8.1	Introduction	Metadata regarding maintenance and update frequency.		1	

Clause	9	Portrayal			
Section	Heading	Content	Comments/Questions	Phase	FIN
9.1	Introduction		ACTION: DIPWG reviewing S-52 for appropriate content	2	

Clause	10	Data Product Format (encoding)			
Section	Heading	Content	Comments/Questions	Phase	FIN

10.1	Introduction	Specifies 8211		1	
10.1.1	Encoding of Latitude and Longitude	Specifies Integers and that it is held under CMFX and CMFY with a multiplication factor of 10^7	S57 DELTA: COMF does not exist in the revised 8211 and the X and Y are held in CMFX and CMFY		
10.1.2	Encoding of Depths	Specifies that depths are in decimal meters and are encoded in the CMFZ	S57 DELTA: The Z value is stored in the CMFZ		

Section	Heading	Content	Comments/Questions	Phase	FIN
11.1	Introduction			1	
11.2	Exchange Set	Specifies what an exchange set	ACTION: Review in Phase 2	2	
11.3	Dataset				
11.3.1	Data sets	Explains what is in an ENC dataset	<p>S57 DELTA: Cells are now Datasets. Size limit is 10MB, re-issues are eliminated, and datasets can cross the 180 degree meridian. CATCOV = 2 is also eliminated, and so is the need for rectangular cells.</p> <p>ACTION: S-100 modification to increase the multiplicity on EX_BoundingBox</p> <p>ACTION: Need to specify rules to handle gaps and overlaps.</p> <p>TSMAD 21: Re-Issues are now included in S-101 and the other S-57 deltas remain the same.</p>		
11.3.2	Dataset file naming	Specifies the naming convention	<p>S57 DELTA: Name is expanded to ten characters and the nav. Purpose is not part of the name.</p> <p>TSMAD 21: OK</p>		
11.3.3	New Editions and Updates	Defines new editions and updates			
11.4	Support Files	S-101 will only utilize text and picture files.		2	

		TSMAD20			
11.4.1	Support File Naming	Naming conventions for Support files		2	
11.4.2	Support file Management		ACTION: Needs fleshing out	2	
11.5	Exchange Catalogue	Specifies the exchange catalogue			
11.6	Data Integrity	This clause and subclauses refer to CRC		1	
11.6.1	ENC data integrity measures	Specifies that the CRC-32 will be used		1	
11.6.2	Implementation	Implementation of CRC	ACTION: Needs Review as this refers to S-57 8211 implementation	2	
11.6.3	Processing	Processing of the CRC			

Clause	12	Metadata			
Section	Heading	Content	Comments/Questions	Phase	FIN
12.1	Introduction			2	
12.1.1	Exchange Set Metadata		ACTION: Needs Fleshing out	2	
12.1.2	Dataset Metadata	Fields required for dataset metadata	ACTION: Needs TSMAD Review	1	
12.1.3	Support File Metadata	Fields required for support file	ACTION: Needs TSMAD Review	2	
12.1.4	Exchange Catalogue File Metadata	Fields required for the Catalogue file metadata. In order to avoid duplication the exchange catalogue inherits the metadata from support files and datasets	ACTION: Needs TSMAD Review	2	
12.2	Language	Specifies the language for S-101		1	
12.2.1	Use of lexical level 2	Specifies lexical level 2	ACTION: Holger to provide verbiage --- How are dealing with this for Phase one since lexical level is no longer valid? TSMAD 21: Clause removed		

Clause	A	S-101 8211 Encoding
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Section	Heading	Content	Comments/Questions	Phase	FIN
A1.1	Data set files			1	Y
A1.2	Records			1	Y
A1.3	Fields			1	
A1.4	Subfields			1	Y
A1.5	Base cell structure	Structure for the Base Cell	ACTION: Needs TSMAD Review	1	Y
A1.5.1 – A1.5.14	8211 fields for Base Dataset		ACTION: Mandatory Values need to be filed out and reviewed DISCUSSION NOTE: In the previous version it was discovered that updates were included in the original structure, as there are differences the 8211 had to be split up.	1	Y
A1.6	Update dataset structure	Structure for the Update	ACTION: Needs TSMAD Review		Y
A1.6.1 – A1.6.13	8211 fields for updates		ACTION: Mandatory Values need to be filed out and reviewed DISCUSSION NOTE: In the previous version it was discovered that updates were included in the original structure, as there are differences the 8211 had to be split up.		Y

#	Sec	Action	WHO	FIN
1	1.5	Need to establish how upticks in the FC/PC are handled and released? – Base on the S-100 Maintenance section	BG/JP	YES – 1/1/11
2	1.5	If the FC/PC catalogue change does this trigger a new publication of the PS? – See #1	BG/JP	YES – 1/1/11
3	3	In one of the earlier drafts AHO made a comment on Intermediate display scales – need clarification?		YES

		TSMAD 21: Based on discussion, language simplified		
4	3	Need TSMAD concurrence to officially change Display Scale to Optimum Display Scale TSMAD21: Changed to SCALE.		YES
5	4.2	Need to incorporate the S100 GFM (only including what S-101 Needs, will split out the features and the spatial)	Barrie	YES
6	4.2.1	Need to review this Clause TSMAD21: Remove Clause		YES
4	4.2.2	Need to review this Clause TSMAD21: Remove Clause		YES
5	4.2.2	Need to add the Spatial Model – Is it the same as what is in the Geometry section in Clause 4.7? TSMAD 21: Clause Removed		YES
6	4.3	Need to add and review UML diagrams for the features and attributes in this section TSMAD 21: Not sure if there is a viable USE Case for Theme – clause may be removed in future	Tom R	
7	4.3.2.4.1	Need to create a Skin of the Earth Theme and submit to TSMAD for approval TSMAD 21: Not sure if there is a viable USE Case for Theme – clause may be removed in future	Tom R	
		Action: Discuss the following as a possible theme: Update theme – update text and what changed and it would be in a summary later, information to the end user what is contained in the change – similar to the text in a NTM, maybe almost like an update pick report. Need to give some guidance on how this should be used. TSMAD 21: Still does not have a good theme use case. Everything above can be done using what we currently have. ACTION – DISCUSS at TSMAD 22/DIPWG 3		
8	4.6	Need to define the new features for this and explain the use in the PS – PHASE 2	JP	
		Need to define the encoding in the DCCG –PHASE 2	JP	
		Need to define the Portrayal mechanism – PHASE 2	JP	
		Need to define the minimum implementation guidelines – PHASE 2	JP	
9	5.4	Need to find a home for the following units: Height, Positional Accuracy, Distance, Time and Bearings (DCCG?) TSMAD 21: Clause removed. Vertical CRS is meters all other units in the DCCG.		YES

10	6	Data Quality – awaiting DQWG effort. Need discussion about what goes in this section other than M_SREL and M_Qual.	DQWG	
11	11.3.1	Need TSMAD concurrence on renaming cells to datasets.		YES
		Need TSMAD concurrence on the elimination of CATCOV=2		YES
		Need to modify S-100 to increase the multiplicity of EX_BoundingBox		YES
		Need to specify the rules on how to handle gaps and overlaps between data in the same display scale. TSMAD 21: Inserted S-65 guidance		YES
12	11.4.2	Need to flesh out the support file management section – PHASE 2		
13	12.1.1	Need to review content for exchange set metadata	EK	
14	12.1.2	Need to review dataset metadata fields	EK	
15	12.1.3	Need to review support file metadata	EK	
16	12.1.4	Need to Review Exchange Catalogue metadata	EK	
17	12.2.1	Need to review this clause	Holger	YES
18	Annex A	Need to Review this Annex as the following changes have occurred:		YES
		Updates have been split out from the Base cell		YES
		Mandatory values need to be populated		YES
19	DCCG	Do the mandatory features belong here or in the feature catalogue. • These belong in the DCCG		
20	DCCG	There has been some discussion that M_QUAL is not useful at small scales – can it be mandatory for some display scales and not for others? • This will be referred to the DCCG and will be mandatory for some scales and optional for others.		
21	4.3.3.1	Associations – the UML has an issue because the relationships (master/slave) are attributes of the feature. BG and TR to have a think.	BG/TR	
22	4.3.4	The UML diagram needs to be replaced with a better example	EM/TR	
23	4.7	Geometry – UML diagram needs to be revised to show the constraints	BG	
24	Annex C	Need to write a paper introducing this concept for formal approval and what the scope of this business rule annex shall be.	JP	