Date: 26 September 201

1	2	(3)	4	5	(6)	(7)	
Component	CO <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the CO <sup>3</sup>	Proposed change by the CO	Secretariat observations on each comment submitted
MAIN	US (SPA WAR )			ge	Throughout the document it is not clear what is a requirement and what is guidance. For example, 4.7 Dataset Loading and Unloading is "prescribed".  Mandatory requirements should be unambiguous and not require the benefit of historical knowledge. This will help to prevent potential differences in interpretation between manufacturers and testing authorities.  The language of 1.3.1 must be used to convey intent – either "must", "should", or "may". We have attempted to identify these occurrences by labelling them with "Requirement Language" in the comment column on this form.  Everything that is a requirement needs to be in the main document and not in an Annex. E.g. Annex C states guidance yet has many requirements that are not captured in the main document.	Review each noted item and modify language to conform with 1.3.1.  Recommend:  Must = used for requirement  Should = ought, ought to (guidance)  May = can, could, might (guidance)	
	JP			GE	There is inconsistency between 'dataset' and 'data set'.	Either 'dataset' or 'data set' should be used consistently in order to avoid confusion.	
	JP			GE	There is inconsistency between 'ECDIS' and 'system' which have probably the same meaning.	Either 'ECDIS' or 'system' should be used consistently in order to avoid confusion.	
	AU	Intro	para 2	ge	Suggest that reference to S-100 be expanded to include the "name" of the document.	Amend to "Based on the IHO Universal Hydrographic Data Model S-100, S-101"	Accepted
	AU	Intro	para 2	ge	This may be a bit controversial, but there has been intermittent discussion over the years in relation to S-57 in regard to the use of the word "Navigational" for ENC as distinct from the more conventional word "Nautical" as used within IHO. In the past, the decision has been that it was too difficult a task to amend the terminology as it is used in Specifications other than IHO (IMO, IEC). Given that these Specifications will need to be amended to recognise	Amend "Electronic Navigational Chart" to  "Electronic Nautical Chart" throughout S-101.	

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					S-101, is there an opportunity here to tidy this apparent inconsistency up?		
PS	US NOAA	1.1	1	Ed	Eventually, the completed S-101 will include an annex that has implementation guidance. Would suggest amended the last sentence	Change: This product specification includes the content model, the encoding, the feature catalogue, portrayal catalogue and metadata	
						To: This product specification includes the content model, the encoding, the feature catalogue, portrayal catalogue, metadata and implementation guidance for developers.	
MAIN	US (SPA WAR )	1.3.2		ge	Appears to be a verbatim copy from S-52. Terms are not consistent with the rest of the document.  For example, SCAMIN is not applicable to S-101.	Terms and definitions need to be verified as applicable to S-101 document as it approaches final review.	
	JP	1.3.2	Para. 24	ED	Radar Priority IMO PS, coastline shall always be written over the radar.  'SHALL' is often used in this document. It should be amended to the appropriate word ('should' or 'must').	IMO PS , coastline should always be written over the radar.	
1	AU	1.3.2	Colour Token	te	For definition of Colour Token: Previous term is "CIE Colours", yet bracketed term in definition is "CIE coordinates".	Amend bracketed term to "CIE colours" or "CIE colour coordinates".	
MAIN	US (SPA WAR )	1.3.2		ge	Colour Token Definition should give example and if possible reference the specification.	(IEC 62288) A five letter, code identifying a colour and its use in ECDIS. Example, "CHBLK - black/grey (general)"	
1	AU	1.3.2	Display Category	ed	Not sure why the "[2]" is included in the definition.	Remove "[2]". Perhaps this requires the definition to begin "The IMO ECDIS Performance Standard establishes"?	Accepted
1	AU	1.3.2	Display	ed	This definition uses the abbreviation "SENC" without	Include the expansion of "SENC" in the definition	Added a definition for SENC

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			Category		expansion, whereas the4 definition for ECDIS, further down the list, includes the expansion.	for Display Category and/or remove the expansion from the definition for ECDIS.	
1	AU	1.3.2	Display Category	ed	"feature" not "object".	Amend to " for the presentation of SENC features. Display base: always on the display. Standard display: the ECDIS' default display. Other: all other features in the SENC."	
1	AU	1.3.2	Display Priority	ed	"feature" not "object". Other minor editorial amendments suggested.	Amend to "Hierarchy to determine which feature is to be displayed when two features overlap. Priority 2 overwrites 1."	
1	AU	1.3.2	ECDIS Chart 1	te	The IHO term for the document containing the symbols, terms and abbreviations used on paper charts is "INT1".	Amend definition to "An ECDIS version of INT1, including".	Accepted
1	AU	1.3.2	Indication	ed	Not sure what the "[2]" is at the end of the definition.	Remove "[2]".	Accepted – carry over from S- 52
1	AU	1.3.2	No symbol Object	ed	"Object" or "Feature"? [ISO convention?]	Amend to "No symbol Feature". NOTE: Global change required for entire document.	Accepted
1	AU	1.3.2	Opaque fill	ge	IHB has recently requested that abbreviations such as "e.g." and "i.e." not be used in IHO Standards and Specifications.	Amend "e.g." to "for instance" or "for example" (similarly, "i.e." to "that is"). [whole document]	
1	AU	1.3.2	Radar Priority	ed	Not sure why the "[2]" is included in the definition.	Remove "[2]". Perhaps this requires the definition to begin "The IMO ECDIS Performance Standard requires"?	Accepted
1	AU	1.3.2	SCAMIN	ed	"feature" not "object".	Amend to "The smallest scale at which a feature is displayed"	Accepted
1	AU	1.3.2	Skin of the Earth	te	"surface" not "area". Additionally question whether a statement is required here to specify that SOTE must completely cover the area of meta features Data Coverage. Additional amendments suggested for syntax consistency.	Amend definition to "A defined set of non- overlapping geographic features of geometric primitive surface, covering an area equivalent to that of meta-features <b>Data Coverage</b> ."	

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1	AU	1.3.2	Symbol Size	te	Not sure what "[3]" and "[5]" means.	Delete "[3]" and "[5]". Need to expand "PC&SS" (not sure what this is). Suggest amend "S-52" to "Portrayal Catalogue"?	
1	AU	1.3.2	Transparent Fill	te	"surface" not "area".	Amend to "A method of identifying features of geometric primitive surface by covering a given"	Accepted
PS	US NOAA	1.4	Content	Ed	Would add in that the content of the product specification also includes implementation guidance	Add the following sentence at the end of the paragraph: In addition, Annex X will provide implementation guidance for developers.	
PS	US NOAA	1.5	S-100 Version	Ed	S-100 version should be 2.0.0	Change S-100 version to 2.0.0	
PS	US NOAA	1.5	Date	Ed	Update Date	Change Date to February 2015	
PS	US NOAA	1.5	Maintenanc e	Ed	Due to the HSSC reorganization this needs to be updated	Change: Changes to the Product Specification S-101 are coordinated by Transfer Standards Maintenance and Applications Development Working Group (TSMAD) of the IHO and must be made available via the IHO web site.  Maintenance of the Product Specification must conform to IHO Technical Resolution 2/2007 (revised 2010).  To: Changes to the Product Specification S-101	
						are coordinated by the S-100 working group of the IHO and must be made available via the IHO web site. Maintenance of the Product Specification must conform to IHO Technical Resolution 2/2007 (revised 2010).	
1	AU	1.5	Maintenanc e	te	TSMAD to be superseded by S-100WG/ENCWG.	Amend maintenance coordination responsibility to the S-100WG and/or ENCWG.	See US(NOAA) above
1	AU	1.5.1.2	para 1	ed	It may be self-evident, but consider there needs to	Add new sentence at end of paragraph "All	

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					be an acknowledgement that all cumulative revisions and corrections must be included in an approved New Edition.	cumulative <i>revisions</i> and <i>clarifications</i> must be included with the release of approved New Editions."	
1	AU	1.5.1.4	para 2	te	I do not understand the justification for this paragraph. Clause 1.5.1.3 states that "in most cases" a new Feature or Portrayal Catalogue constitutes a revision of S-101, which must also include cumulative clarifications. If this is the case (and I would like to see a use case where a new Feature or Portrayal catalogue can be considered to be a clarification only), why is there a lot of words related to later and earlier versions of Feature and Portrayal Catalogues here? Additionally, the first sentence of this paragraph is essentially repeated in the last paragraph of the clause	Delete paragraph.	
	JP	1.5.1.4	Para. 3	ED	"Changes in a clarification versions" appears in both Para.2 and Para.3.	Delete the phrase in Para.3.	See AU above
PS	US NOAA	3	1	ED	Add a reference to where the discovery metadata is found	Add the following at the end of the first sentence:as defined in clause 12.	
MAIN	US (SPA WAR )	3	Spatial Resolution	te	Also applies to DataCoverage.  minimumDisplayScale does not exist in dataset. The values do not define a range within which the dataset should be used, since the dataset is used beyond its maximumDisplayScale.	Rewrite: "An ENC dataset and DataCoverage must carry a value for maximumDisplayScale. Each DataCoverage must additionally carry a value for minimumDisplayScale. These values must be taken from the following table:"	
3	AU		Spatial Resolution	te	The description here states that the values for minimum and maximum display scale must be taken from the included table (Table 1). While this is valid for maximum display scale, this is not necessarily the case for minimum display scale, which may be populated with an empty (null) value (refer DCEG Baseline clause 3.4). For instance, it does not make	May need further discussion in regard to the DCEG, but if agreed Table 1 could be split into 2 columns for allowable maximum display scale and minimum display scale values.	

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					sense for a 1:10000000 ENC to have 10000000 populated for both maximum and minimum display scale (in this case it would make sense to populate minimum display scale as empty (null)).		
4	AU	4.3.1	para 2	ed	Consider that the Feature catalogue is available as an XML file rather than an XML document?	Amend paragraph to begin "The S-101 Feature Catalogue is available as an XML file which conforms".	Accepted
	JP	4.3.2.1.1	-	ED	"DockBasin" can't be found in the DCEG.	Change "DockBasin" to "Dock Area" (?) or other.	Accepted
4	AU	4.3.2.1.1	para 1	te	Incorrect feature name <b>DockBasin</b> (refer DCEG Baseline clause 8.18).	Amend to <b>Dock Area</b> .	Accepted
4	AU	4.3.2.1.1	para 1	ed	It is features that comprise the SOTE – the feature type is geographic.	Amend last sentence of paragraph to read "Features that comprise the Skin of the Earth are listed below:".	Accepted
4	AU	4.3.2.1.1	para 1	ge	Needs to be consistency with the syntax of feature names throughout the document. Consider that options are feature name or camelCase. The syntax used in this clause is neither. Suggest use feature name to be consistent with DCEG.	Amend "DataCoverage" to "Data Coverage" (similar syntax to be adopted throughout the document).	
	JP	4.3.3.4	Fig.4	TE	This Figure shows a <b>composition</b> structure with UML. In this case, the colour of diamond symbols should be black.	Amend:	
4	AU	4.3.4		ed	"Information" is the feature type, not feature type "Information Types".	Amend clause heading to "Information".	
4	AU	4.3.4	para 1	ed	"Information" is the feature type, not feature type "information types".	Amend clause to read "Information features are identifiable pieces of information in a dataset that can be shared between other features. They have attributes but have no relationship to any geometry; information features may reference other information features.".	

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	JP	4.3.4.1	Fig.5	ED	'GM_Mulitpoint' is wrongly spelled.	'GM_Mulitpoint' should be change to 'GM_Multipoint'.	
4	AU	4.3.4.1	Figure 5	ed	The feature type is information. <b>Spatial Quality</b> is a feature class of type information.	Amend Figure name to "Spatial Quality Information Feature Class" (or "Spatial Quality Feature Class of Type Information" or just "Spatial Quality"?).	
4	AU	4.3.5.2	Figure 6	te	Sub attributes for the complex attribute <b>topmark</b> have been amended (refer DCEG Baseline clause 28.28).	Remove <b>colour pattern</b> from the sub-attribute list and add <b>shape information</b> .	Accepted
	JP	4.4	Para.3	ED	, the feature will reference each spatial part of the feature within the cell.	"cell" should be changed to "dataset". There is inconsistency concerning "cell" between S-101 and DCEG.	
MAIN	US (SPA WAR )	4.4	4	te	Incorrect usage of requirements language.  "Where a real-world feature is repeated in datasets of different maximum display scale, the FOID <b>should</b> be repeated for each instance of the feature across the maximum display scale range."	Revise wording to read:  "Where a real-world feature is repeated in datasets of different maximum display scale, the FOID <u>must</u> be repeated for each instance of the feature across the maximum display scale range."	
PS	US NOAA	4.5.2		TE	Within the dataset rule clause it states that "Each data set must be contained in a physically separate, uniquely identified file on the transfer medium".  This rule seems more applicable to clause 11 data product delivery	Recommend moving this sentence to clause 11.2 under the Other Delivery Information heading.	
MAIN	US (SPA WAR )	4.5.3	Note	ed	Update reference to Annex CXX.X	Recommend items that are to be updated later are identified consistently throughout the document. For instance mark with "TO DO:" for easier search and verification.	
MAIN	US (SPA WAR	4.5.3	Para 2	te	It is not clear if DataCoverage features within a single DataSet must not overlap, or whether the set of DataCoverage features within all overlapping	Clarify separately for both cases.  "The DataCoverage features within a dataset	

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	)				datasets sharing a maximum display scale must not overlap.  E.g. If dataset A contains coverage X and dataset B contains coverage Y and Z, then the intersection of X, Y and Z should be empty.	{may, must not} overlap.  Data Sets with the same maximum display scale may overlap; however the set of all DataCoverage features within these overlapping datasets must not overlap."	
MAIN	US (SPA WAR )	4.5.3	Final Sentence	te	Clarify restriction or lack thereof on maximumDisplayScale for multiple DataCoverages within a DataSet.	"When a dataset has multiple DataCoverage features, the maximumDisplayScale {must, may not} be the same for all DataCoverage features within the dataset."	
4	AU	4.6	para 2	te	I do not recall any discussions regarding display (or non-display) of SOTE features inclusively dependant on the values populated for maximum and minimum display scales, which this paragraph implies. Also, my understanding is that where no smaller scale ENC dataset exists for a geographic area, the dataset will always be displayed in the ECDIS, regardless of whether a value has been populated for the minimum display scale.	Requires further discussion. Consider that no reference should be made to SOTE (should be just "features"). Also consider that the wording of the paragraph needs to be amended to imply that a dataset will always be displayed in the ECDIS if it is not covered by a smaller scale dataset within the SENC. E.g.:  "When an ECDIS viewing scale is smaller than the value indicated by minimum display scale, features within the Data Coverage feature are not displayed, except where the SENC does not contain a dataset covering the area at a smaller scale, in which case the dataset will be displayed at all smaller scales. When the viewing scale is larger than the value indicated by maximum display scale, features within the Data Coverage feature are displayed with over-scale indications. The viewing scale is selected by the mariner as an outside input."	
MAIN	US (SPA WAR )	4.6	Para 2		When scale is smaller than minimumDisplayScale, no features should be displayed. For datasets containing multiple DataCoverage features the	Change to: "When the viewing scale is smaller than the minimumDisplayScale, features within the DataCoverage must not be displayed. When the viewing scale is	See Australia above

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					maximumDisplayScale of each DataCoverage must be evaluated separately. Additionally, the over-scale pattern should be referenced instead of the over-scale indication. Delete the last sentence of the paragraph.	larger than the maximumDisplayScale of a DataCoverage, skin of the earth features within the DataCoverage are overlaid with the over-scale pattern; provided that the area was displayed automatically by the ECDIS in order to avoid leaving that portion of the display blank."	
4	AU	4.7	para 1	ed	Content of the first sentence is repeated in the last sentence of the paragraph.	Amend first sentence of paragraph to read "A new algorithm based on Producer defined dataset display scales (minimum and maximum) for ENC loading and unloading within an ECDIS is prescribed in S-101 in order for the appropriate ENC to be viewed at the mariner's selected viewing scale."	Accepted
						Delete last sentence of paragraph.	
MAIN	US (SPA WAR )	4.7.1	Figure 7	ed	The footnote "Dataset with the smaller maximumDisplayScale is drawn first" is in an odd location	Remove. The same statement is made in the following paragraphs	
MAIN	US (SPA WAR	4.7.1	Figure 7	ed	Order of examples is confusing	Swap first two rows, so that MSVS is 90000 -> 45000 -> 22000	
MAIN	US (SPA WAR )	4.7.1		ge	The use of the words "order", "priority", "largest", and "smallest" is confusing when used with minimumDisplayScale and maximumDisplayScale	Clarify wording and ovoid use of potentially confusing or counter-intuitive terminology.	
MAIN	US (SPA WAR )	4.7.1		ge	Due to issues as identified in separate paper submitted recommend replacement of this section.	Separate scale values paper address specific concerns. Note that acceptance of new section requires update of section 4.6 and 4.7 for consistency.	
MAIN	US (SPA	4.8.1	First bulleted list	ed	This is a repeat of the S-100 documentation. Do not copy from other specifications as this leads to	Remove first bulleted list.	

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	WAR )				synchronization issues .		
	JP	4.8.1	Para. 3 3 <sup>rd</sup> Item	GE	S-101 says, "Linear feature MUST not be encoded with", while DCEG 2.2.1 says, "It is recommended that curves and surface boundaries SHOULD not be encoded at". Consistency is necessary.	Either 'must' or 'should' should be used based on the previous discussion.	
4	AU	4.8.1	Figure 12	ed	I think the annotation for Figure 12 is in the incorrect location (it is below the diagram showing internal and external edges of polygons touching tangentially.	Move the annotation for Figure 12 to be below the self intersection diagram.	
4	AU	4.8.1	para 3	te	3 <sup>rd</sup> bullet references "linear features". Incorrect terminology and does not include point density limitation for surface boundaries.	Amend 3 <sup>rd</sup> bullet to "Curve features and surface boundaries must not be encoded with a distance between two consecutive vertices which is smaller than 0.3mm at maximum display scale.".	
MAIN	US (SPA WAR )	4.8.1	figures	ed	Except for the first figure, the figures are a repeat of the S-100 documentation	Move the first figure (self-intersecting curves) to the S-100 specification, Remove all other figures.  See separate paper for corrected figures.	
	JP	4.8.2	Para. 1, 2	GE	'edge' and 'line' is rarely used in this document. e.g. "In certain circumstances, the symbolisation of an edge may need to be suppressed."	Change "edge" and "line" to "curve".	
MAIN	US (SPA WAR )	4.8.2		ed/te	Entire section should already be covered by S-100	Remove	
MAIN	US (SPA WAR	4.8.2	Para 2	te	If first comment for 4.8.2 is not accepted: entire paragraph is specific to S-57, not S-101	Remove Para 2.	
MAIN	US (SPA WAR	4.8.2		te	If first comment for 4.8.2 is not accepted:, the document references ISO 8211 fields	Change to reference S-100 MaskedRelation.	

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	)						
MAIN	US (SPA WAR )	4.8.2	1	te	Incorrect reference for MIND  "The Mask Indicator [MIND] must be set to either {1} or {2} (see Annex B – clause B1.5.13)"	Recommend: "The Mask Indicator [MIND] must be set to either {1} or {2} (see Annex B – clause B1.5 and clause B1.5.29)"	Accepted (also AUS commented
PS	US NOAA	4.8.2	1	ED	Reference to Annex B is wrong. It should be B1.5.29	Change reference from B1.5.13 to B1.5.29	Accepted
4	AU	4.8.2	Figure 16	ed	Caption is too long.	Amend caption name to "Figure 16 – Example With Masked Edge" and move rest of caption content to a new paragraph.	Accepted
MAIN	US (SPA WAR )	5	Entire section	te	All of the following proposed changes to section 5 have been captured in an update proposal.	See separate paper.	
5	AU	5.3	1 and 3	ed	The contents of the 1 <sup>st</sup> paragraph are virtually repeated in the 3 <sup>rd</sup> paragraph.	Amend 1 <sup>st</sup> paragraph to include only the last sentence of the paragraph.	
						Slightly amend the 3 <sup>rd</sup> paragraph, with the 1 <sup>st</sup> 2 sentences to read "Although all coordinates in a dataset must refer to the same horizontal CRS different Vertical Datums can be used for the height or depth component of a coordinate tuple. Therefore the vertical CRS can be repeated.". Remainder of paragraph to remain unchanged.	
MAIN	US (SPA WAR )	5.3	Example 1	te	Value of second CRSH does not match B1.5.7 (CRSH) field CRNM value requirements.	Change to:  CRIX{2}!CRST{5}!CSTY{3}!CRNM'Depth -	
						Mean Sea Level'! CRSI!CRSS{255}SCRI!	
MAIN	US (SPA WAR	5.3	Example 1	te	CRSS{2} subfield value is invalid.	Change to CRSS{3} (EPSG),	

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Document: S-101 Product Specification 20140708 TSMAD29/DIPWG7 10.3B rev 4

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	)						
MAIN	US (SPA WAR )	5.3	Example 2	te	This example shows a projected CRS which is prohibited in S-101 since the PROJ field does not appear in section B1.5.	Remove this invalid example.	
MAIN	US (SPA WAR )	5.3	Example 1	ed	The ISO-8211 text format is difficult to read for an example of record encoding.	See proposed table at the end of this comment matrix.	
MAIN	US (SPA WAR )	5.1		ge	There is no mention of the S-100 Coordinate Reference System(s) that are used.	Add text to indicate which parts of S-100 S 6-4.2 is supported. Change section 5.1 to read: "An ENC dataset must define at least one compound CRS, which must be composed of one geodetic CRS and one vertical CRS. All compound CRSs within the same dataset must use the same geodetic CRS."	
MAIN	US (SPA WAR )	6		ed	The only requirement is the first sentence in 6.1.1	Remove the rest of this section. These items should be addressed in S-58.	
MAIN	US (SPA WAR )	6.1.1		ed	S-58 is referenced	Add appropriate reference to 1.2 (References)	
6	AU	6.1.1	para 1	ed	The paragraph ends with the words " and anything specifically required for the product being specified.". This is a very vague statement that is not specific to S-101.	Amend to read " and anything additional that is specifically required as defined in the Product Specification. ".	Accepted
MAIN	US (SPA WAR )	6.1.1		ed	" anything specifically required for the product being specified." Is wordy.	Suggest change to "anything specifically required for the product."	See Australia above
MAIN	US (SPA WAR	6.1.2	2 <sup>nd</sup> para.	ed	Second paragraph appears to be generic, not specific to bathymetric data quality.	Consider moving paragraph up one level to 6.1.	

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6	AU	6.1.2	para 2	ed	The start of this paragraph is a repeat of the first sentence of clause 6.1 (introduction).	Suggest amend 1 <sup>st</sup> sentence to read "Data quality can be encoded at three different metadata levels (dataset, feature, feature instance).".	
MAIN	US	6.1.2	2 <sup>nd</sup> para.	te	Incorrect usage of requirements language.	Recommendations: Change the should to "must"	
	(SPA WAR )				"Uncertainty due to temporal variation should not be included in these attributes."	""Uncertainty due to temporal variation <b>must</b> not be included in these attributes."	
6	AU	6.1.4	para 1	ed	The intent of the 1 <sup>st</sup> sentence is difficult to understand.	Suggest amend sentence to "Quality of the surveys from which charted features are derived can be expressed using the meta feature Quality Of Survey.".	
MAIN	US (SPA WAR )	6.1.4		ed	Change "these items"	Replace "these items" with the specific items	See AUS
MAIN	ÚS (SPA WAR )	6.1.4		ge	Is "QualityOfSurvey" a meta-feature?	Clarify what "QualityOfSurvey" is.	See AUS
7	AU	7.1	para 2	te	There is s statement here pertaining to mandatory elements of S-101 DCEG being conformed to in S-101 datasets. Should there be an additional statement (paragraph, sub-clause) also mentioning S-58 as a derivative of the DCEG (and other components of S-100/S-101)? Refer to other clauses such as 6.1.1 and 8.5.	Discuss?	
8	AU	8.5	para 1	te	Is a 0.0.n release considered to be a "new version"? There is an earlier statement in the document that a clarification does not necessarily require a new Feature and/or Portrayal Catalogue. The statement here is contradictory to this.	Discuss?	

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MAIN	US (SPA WAR )	8.5		ed	Is there any practical limit to how many versions of the S-101 product specification must be supported?	CHANGE:" The ECDIS must be able to manage datasets and their catalogues that are created on different versions of the S-101 product specification"  TO: "The ECDIS must have available all versions of the feature and portrayal catalogs"	
PS	US NOAA	8.5		TE	Need to add a note that during testing that two types of catalogue options are being explored	Add the following NOTE: During the testing phase of S-101, two different types of catalogue options are being tested. Option 1 is to create a feature and portrayal catalogues that contain cumulative changes. Option 2 is that the ECDIS will maintain multiple catalogues, where each catalogue is tied to a specific version of S-101.	
8	AU	8.5	para 2	ed	Incomplete Annex reference.	Amend paragraph to read "See the Implementation Guidance at Annex C for specific rules.".	Accepted
9	AU	9.1	para 1	ed	Consider that the 2 <sup>nd</sup> and 3 <sup>rd</sup> bullet points are synonymous.	Remove 2 <sup>nd</sup> or 3 <sup>rd</sup> bullet (recommend 3 <sup>rd</sup> ).	
9	AU	9.1	para 2	ed	Is it necessary to tie a version of S-101 to a specific Edition of S-100?	If not, remove "ed 2.0.0" from the 1st sentence. If so expand to "Edition 2.0.0".	Accepted
9	AU	9.2	para 1	ed	Consider that the Portrayal catalogue is available as an XML file rather than an XML document? Also, it "is" available (not "will be") in the context of the Specification.	Amend paragraph to begin "The S-101 Portrayal Catalogue is available as an XML file which conforms".	Accepted
9	AU	9.2.3.1	para 1	te	As far as I am aware, there will only be a single set of symbols in S-101 (i.e. no longer "traditional" and "simplified".	Confirm, and if this is correct amend the paragraph to read "The Portrayal Catalogue provides a set of symbols, which are generally based on the traditional paper chart symbols."	

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	JP	9.2.3.1	Para. 1	GE	The symbols for point objects are	Change "objects" to "features".	
PS	US NOAA	9.2.3.1		TE	It states that we are continuing to provide two sets of symbols – traditional and simplified. I thought that DIPWG had decided that it was going to provide a single set of symbols – traditional with the colours added	Remove reference to simplified symbols.	See AUS
MAIN	US	9.2.3.1	1	te	This paragraph should define/provide a definition of	Recommendation:	
	(SPA WAR )				"simplified" and "traditional" symbols.	Provide a descriptive meaning on how these terms are defined in this context.	
MAIN	US (SPA	9.2.3.2	2	te	This paragraph should define/provide a definition of	Recommendation:	
	WAR )				"plain" and "symbolized" area boundaries.	Provide a descriptive meaning on how these terms are defined in this context.	
MAIN	US (SPA WAR )	9.2.3.2	Para 2	te	Clarify whether area boundaries should be visible around the edge of the display window in the case where the area encloses the window.	Add paragraph: Area boundaries {must, must not} be visible on the edge of the display window when the display window is enclosed by an area.	
	·				Note that if visible, the edge of the display window may become cluttered with these symbols as the user zooms in. Similarly, the centre of the display window may become cluttered with centred area symbols.		
PS	US NOAA	9.2.4		TE	This clause is a little sparse on information.	Add in the following:	
					I would add this as a S-101 task for someone to develop some more guidance on how this is supposed to work.	S-101 utilizes a cartographic feature called TextPlacement that is used in association with the featureName attribute to optimise text positioning in ECDIS. There are two types of text instruction:	
9	AU	9.2.4	para 1	te	Is it not possible for text to be displayed as centred within an area?	Discuss?	

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	JP	9.2.5	Para. 2	ED	"or some other neutral criterion, shall be used fortop. Test shall be drawn"  And " as to which object is drawn on"	Change 'shall' to 'should' or 'must'. Which is better, 'should' or 'must'? And Change 'object' to 'feature'.	
MAIN	US (SPA WAR )	9.2.5	Table	te	Second row states "S-57 group 1 filled areas"	Change to "skin of the earth features"	Accepted
MAIN	US (SPA WAR )	9.2.5.	2 <sup>nd</sup> para.	ed	Delete "arbitrary"	Revise wording to: "If the display priority is still equal among features of the same type of geometry (curve, surface or point) the given sequence in the data structure of the SENC, or some other neutral criterion, shall be used for an arbitrary decision as to which object is drawn on top."	
MAIN	US (SPA WAR )	9.2.5	2 <sup>nd</sup> para	ed	Last sentence concerning Text features is oddly placed.	Remove "Text shall be drawn last (except for own ship etc.), in priority 8."  Add a row to the table that shows Text has "priority 8".	
9	AU	9.2.5	Table	ed	Missing Table number and name	Insert caption "Table 3 – Display Priorities" underneath Table.	Accepted
9	AU	9.2.5	Table	ed	2 <sup>nd</sup> row states "S-57 group 1 filled areas". Consider that this should be S-101, and the term used previously in the document is "Skin of the Earth".	Amend 2 <sup>nd</sup> row of Table to read "S-101 Skin of the Earth filled areas".	Accepted
MAIN	US (SPA WAR )	9.2.6		te	This already exists in in S-100 2.0.0	Remove from S-101.	
MAIN	US (SPA WAR )	10.1.1 – 1.2		ed	S-100 already covers the encoding rules.	Reference S-100 10a-5.4.1.1, then specify a table with constrained values for CMFX, CMFY, CMFZ, DCOX, DCOY, and DCOZ.	

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	JP	10.1.2	Para. 1	GE	An example should be added in order to help users understand the producer.	Add EXAMPLE.  EXAMPLE; A depth = 2.3 is converted into Z = depth * CMFZ = 2.3 * 100 = 230.	
MAIN	US (SPA WAR )	10.1.3		ed	This is unclear.	Rewrite: Floating point and integer attribute values must not contain leading zeros. Floating point attribute values must not contain non-significant trailing zeros. Additional note: should this be in S-100 instead?	
MAIN	US (SPA WAR )	10.1.4		ed	S-100 10a-4.1.1 already restricts the character set to UTF-8	Move BOM requirement into S-100, remove 10.1.4.	
	JP	10.1.4	Para. 1	ED	There is no period at the end of this paragraph.	Add period: A BOM must not be used.	
MAIN	US (SPA WAR )	10.1.6	Bullet list	ed	Bullet list is unnecessary.	Change first sentence to: In both the base data set and update data set, when an attribute code is present but the attribute value is missing, indicates that this attribute value is unknown.  Remove the rest of section 10.1.6.	
	JP	11.1	Fig. 17	GE	There are differences between Fig.17 and S-100 Exchange set (e.g. Fig. 4a-D2).	Chage Fig.17 based on S-100	
11	AU	11.2	para 3	ed	Consider that support files are linked to features by simple attributes, not "fields".	Amend paragraph to read "Support files are supplementary information which are linked to features by the following simple attributes within the dataset."	Accepted
11	AU	11.2	para 3	te	2 <sup>nd</sup> bullet: Incorrect attribute name.	Amend to "pictorial representation"	Accepted
11	AU	11.2	Mandatory	ed	Consider that for ENC datasets there should be a	Add sentence to ENC datasets: "There must be a	

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			Elements		statement that there must be a minimum of 1 ENC dataset within the Exchange Set.	minimum of 1 ENC dataset within the Exchange Set.".	
	PRI MAR	11.2	Optional elements	ed	Should coordinate reference systems and code lists be described as optional files as well?		
					Reference to 12.1 4 <sup>th</sup> paragraph: Other catalogues can be included in the exchange set in support of the datasets such as feature, portrayal, coordinate reference systems, code lists etc		
					Reference to Figure 20 – S-101 Exchange Set. The figure includes S101_CrsCatalogue		
11	AU	11.3.1	para 1	ed	Suggest that bullets be re-ordered to have New dataset or new Edition as the first bullet (more logical order).	Move "New dataset or New Edition" to be 1st bullet.	Accepted
11	AU	11.3.1	para 1	te	Throughout S-101, a new or New Edition dataset is referred to as a "base dataset" or "base ENC dataset".	Amend bullet to be "New dataset or New Edition (base dataset):".	
11	AU	11.3.2	para 1	ed	The bullets describe the entire file name. Am not sure what "main part" means. Also consider that it is important to state that the file name is unique.	Amend to "The file name forms a unique identifier where:".	Accepted
MAIN	US (SPA WAR )	11.3.2		te	Fourth bullet point conflicts with second bullet point.	Change bullet four to 2-character minimum, not 3.	
11	AU	11.3.2	para 1	ed	Suggest that an indication be included for the 1 <sup>st</sup> and 3 <sup>rd</sup> bullets that these components of the file name are mandatory.	Add "(mandatory)" at end of 1st and 3rd bullets.	
11	AU	11.3.2	para 1	ed	The 4 <sup>th</sup> bullet is not a component of the file name, but a characteristic. Suggest also that a more distinct indication is required as to what the 3 character minimum refers.	Amend 4 <sup>th</sup> bullet to be a separate (non-bullet) paragraph, and re-word to read "The minimum number of characters in the main part of the dataset name (CCXXXXXXXXX) is three and the	

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						maximum number is ten.".	
11	AU	11.4	para 4 and Table	ed	Support file extension is specified at clause 11.4.1. Table has no number or Table name.	Delete paragraph "EEE – support file extension". Add Table number and caption under table.	Accepted
	JP	11.4.1	Para. 3 2 <sup>nd</sup> Item	ED	The following characters are allowed in the dataset name, A to Z, 0 to 9 and the special character _ (underscore).	Change to "The following characters are allowed in the support file name, A to Z, 0 to 9 and the special character _ (underscore)."	
11	AU	11.4.1	para 3	ed/te	Suggest that the format of this paragraph be consistent with that used in the corresponding paragraph a clause 11.3.2. Similarly, clear statements as to the mandatory/optional components of support file names should be included, with the 3 <sup>rd</sup> to 8 <sup>th</sup> characters of the file name being optional.	Amend paragraph to be consistent with clause 11.3.2.	
	JP	11.4.2	Para.3	GE	'separate folder' is difficult to understand.	An example should be added.	
11	AU	11.4.2	para 2	ed	Suggest stronger wording regarding specification to remove deleted support files from the ECDIS.	Amend 2 <sup>nd</sup> sentence to "Support files carrying the "deletion" flag should be removed from the ECDIS.". Discuss whether this should be a "must"?	
MAIN	US (SPA WAR )	11.5		te	The issuing agency code for Canadian Hydrographic Service is "CA", which is the first two characters of "catalog".	Suggest renaming CATALOG.101 toCATALOG.101 to avoid conflict with the Canadian Hydrographic Service, since "" can never be used as an issuing agency code.  Remove the sentence "No other file in the exchange set may be named CATALOG."	
11	AU	11.6.3	para 1	ed	Multiple Data Producers may exist for datasets within an Exchange Set, not for an individual dataset?	Amend 1 <sup>st</sup> sentence of paragraph to "In addition to the metadata included for each dataset file and its digital signature, an Exchange Set must also	Accepted

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						provide a public key for every dataset Data Producer included within the Exchange Set.".	
11	AU	11.6.3	para 2	ed	Suggest that paragraph be sub-divided to have the stages of authentication as separate paragraphs.	Break paragraph to have (1) and (2) as separate paragraphs.	Accepted
	PRI MAR	12.1	3 <sup>rd</sup> paragraph	te	Figures 14 to 16 outline Should be changed to figure 18 to 21	Figures 18 to 21 outline	Accepted also AUS comment
PS	US NOAA	12.1	3	ED	Figures are labelled wrong	Change to Figures 18-21. Change Figure 1 to Figure 18 Change Figure 15 to Figures19 and 20 Change Figure 16 to Figure 21	Accepted
	JP	12.1	Para.3	ED	Some Fig. numbers are wrong.	Change to correct numbers.	Accepted
	JP	12.1	Fig.19, 20	ED	Some combinations of diamond and arrowhead are wrong.	Change to correct combinations.	
MAIN	US (SPA WAR )	12.1	Para 3	te	References to figures 14-16 don't seem to make sense with paragraph wording. Paragraph 3 also cites Figure 1, this probably a mistake as well.	Review all cited figures in this section for accuracy.	
PS	US NOAA	12.1	Figure 21		Figure is not in alignment with the tables	Amend figure – see adendum	
PS	US NOAA	12.1	Figure 21 +tables		There are no corresponding tables for the references back to S-100 tables. They are covered in S-100 S100_SupportFormat S100_Support FilePurpose S100_CatalogueIdentifier S100_CataloguePointOfContact S100_DataFormat	Unsure if we need to repeat the tables in S-101 or is the reference back to S-100 sufficient.	

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	JP	12.1.1	Last item	TE	dataCoverage: 4.5.3 DataCoverage rules, "A dataset may contain more than one DataCoverage feature, but must not contain more than three total DataCoverage features".	Change '0*' to '03'	
PS	US NOAA	12.1.1	Table		digitalSignature is missing a Type	Add characterString	
PS	US NOAA	12.1.1	Table		Is date descriptive enough?	Suggest making it catalogueDate	
PS	US NOAA	12.1.1	Table		The following fields in the table are missing data types:	Add the following types for these fields publicKeys - characterString sourceMedia – characterString replacedData – Boolean dataReplacement – characterString	
MAIN	US (SPA WAR )	12.1.1		te	metadataFileIdentifier remarks description does not match example. Says suffix but example has prefix.	Each file name must have a "MD_" prefix added to the S-101 file name.	
12	AU	12.1.1	dataProtecti on	te	Boolean type attributes are True or False.	Suggest amend Remarks cell to "True = Encrypted; False = Unencrypted".	Accepted
MAIN	US (SPA WAR )	12.1.1			For dataProtection, what does true and false indicate?	Recommend changing comments to say:  A value of True indicates the presence of encryption. Otherwise, the value must be False.	See AUS
MAIN	US (SPA WAR )	12.1.1		ed	digitialSignature is missing Type.	Set type to "CharacterString".	
12	AU	12.1.1	editionNum ber	te	The Edition Number also remains the same for an Update?	Amend Remarks cell to "When a dataset is initially created, the edition number 1 is assigned to it. The edition number is increased by 1 at each	Accepted

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						New Edition. Edition number remains the same for Update and Re-issue.".	
MAIN	US (SPA WAR	12.1.1		ed	updateNumber has type of CharacterString	Set type to "Integer". Note: this will not match S-100, but we think that S-100 is incorrect.	
MAIN	US (SPA WAR )	12.1.2		ed	editionNumber has type of CharacterString	Set type to "Integer". Note: this will not match S-100, but we think that S-100 is incorrect.	
	JP	12.1.2	4 <sup>th</sup> item	ED	There are differences between 12.1.2 and S-100 D-2.10 S100_SupportFileDiscoveryMetadata. Its value should be added for purpose.	Change to; 1: New – A file which is new 2: Replacement – A file which replaces an existing file 3: Deletion – deletes an existing file	Accepted
	JP	12.1.2	8 <sup>th</sup> item	ED	The value number should be added for dataType.	Change to; 1: TXT = Text files 2: XML = Text files 3: HTM = Text files 4: TIFF = Picture files	Accepted
12	AU	12.1.2	dataProtecti on	te	Boolean type attributes are <i>True</i> or <i>False</i> .	Suggest amend Remarks cell to "True = Encrypted; False = Unencrypted".	Accepted
	JP	12.1.2	9 <sup>th</sup> item	GE	What does 'dataTypeVersion' mean? There is no description about 'dataTypeVersion'.	Its description should be added in S-100 or S-101.	
12	AU	12.1.2	editionNum ber	te	The Edition Number also remains the same for an Update?	Amend Remarks cell to "When a dataset is initially created, the edition number 1 is assigned to it. The edition number is increased by 1 at each New Edition. Edition number remains the same for Update and Re-issue."	Accepted
	JP	12.1.3	-	ED	There are differences between 12.1.3 and Fig.21 (S-101 Exchange Set – Class Details).	Change one in accordance with the other.	
Annex B 8211	US (SPA WAR	B.1.2		ge	What is the "Name" of the record?	The RCNM and RCID subfields combined specify the "Name" of the record.	

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Date: 26 September 201

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	)						
Annex B 8211	US (SPA WAR )	B.1.3	1 <sup>st</sup> sentence	ed	"(indicated by <0*> or <1*>)" is already defined in S-100.	Remove.	
Annex B 8211	US (SPA WAR	B.1.5		te	The type code fields needed to successfully encode a S-101 dataset are missing.	Add the following fields to B1.5 and descriptive subsections:	
	)				Note that per B.1.2 fields that are not present in the diagram are prohibited.	ATCS, ITCS, FTCS, IACS, FACS, and ARCS	
Annex B 8211	US (SPA WAR )	B.1.5		te	DSSI and ATTR should be nested under DSID according to S-100 2.0.0_rev1 section 10a-5.1.2	Update spec to conform with S-100.	
Annex B 8211	US (SPA WAR )	B.1.5		te	CRSH should be nested under CSID according to S-100 2.0.0_rev1 section 10a-5.2.2	Update spec to conform with S-100.	
Annex B 8211	US (SPA WAR )	B.1.5.27 & B.1.6.24		te	Association and Role code labels don't match each other, nor S-100.	Update spec to conform with S-100.	
Annex B 8211	US (SPA WAR )	B.1.6.6		te	OBJC subfield should be NITC according to S-100 2.0.0_rev1 section 10a-5.3.3	Update spec to conform with S-100.	
Annex B 8211	US (SPA WAR )	B.1.5.7		te	CRSS value for EPSG disagrees with S-100 2.0.0_rev1 section 10a-5.2.2.2	Update spec to conform with S-100.	
Annex C	US NOAA	Annex C	Entire Thing		Initially the numbering structure was set up to reflect the numbering structure in the main part of the PS. However, this is not easily maintained.	Suggest renumbering.	

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Document: S-101 Product Specification 20140708 TSMAD29/DIPWG7 10.3B rev 4

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Annex C	US (SPA WAR )	С		ed	Most of the section numbering in this appendix does not align with the main document.	Align section numbering, or renumber without attempting to align with main document.	
Annex C	US (SPA WAR )	С		ed	There should be no requirement in Annex C.	Requirements must be moved to corresponding sections of main document.	
Annex C	US (SPA WAR )	C.1.1	Para 3	te	Extra word "in".	Remove the work "in" from the cited example.	
Annex C	US NOAA	C4.1			This paragraph does not really provide any implementation guidance	Delete paragraph	
Annex C	US (SPA WAR )	C8.1		ed	Empty section	Remove?	
Annex C	US (SPA WAR )	C9.1		ed	References IEC 61174	Add "IEC 61174" to section 1.2 References.	
Annex C	US (SPA WAR )	C9.1.1	Last bullet	ed	S-100 products are not restricted to S-10X	Change "a S-10X tidal product" to "an S-100 based tidal product".	
	JP	C9.1.3	Para. 1	ED	"The following criteria shall serve"	Change to "The following criteria should serve"	
Annex C	US (SPA WAR )	C9.1.3	All bullets	te	Are these requirements or not?	Change all "should" to "must" if these are requirements and move to MAIN document.	
Annex C	US (SPA WAR )	C9.2.2.1	3 <sup>rd</sup> para	te	Use of the word "should". However, IMO PS appears to treat "should" as "must" in the context of S-101.	Change all "should" to "must" if these are requirements and move to MAIN document.	

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Annex C	US (SPA WAR )	C9.2.2.2	Last para	te	Should the "should" be a "must"?	Change all "should" to "must" if these are requirements and move to MAIN document.	
Annex C	US (SPA WAR )	C9.2.2.3	3 <sup>rd</sup> bullet	te	Must the "should" be a "should"?	Change all "should" to "must" if these are requirements and move to MAIN document.	
Annex C	US (SPA WAR )	C9.2.2.3	Last para.	ed	Paragraph reading "an area of non-HO"	Should be bulleted item	
Annex C	US (SPA WAR )	C9.2.2.3	Last para.	ed	Paragraph reading "the entire display contains"	Should be bulleted item	
Annex C	US (SPA WAR )	C9.2.2.4	Section heading	ed	Section name is not correct	Rename to: "Supplemental Display Items". Move to main document as requirements.	
Annex C	US (SPA WAR )	C9.2.2.5	Distance	ge	"Decimal miles" is incorrect	Change: "decimal nautical miles"	
Annex C	US (SPA WAR )	C9.2.2.5	Distance	ge	Should "kilometres and decimal kilometres" be in the list?	Add "kilometres and decimal kilometres"	
Annex C	US (SPA WAR )	C9.3.2.5		ge	Colour references should use the defined colour tokens.	Change magenta to CHMGD. Change grey to CHGRF.	
Annex C	US (SPA WAR )	C9.3.3	3 <sup>rd</sup> para	te	Is this a requirement?	Change "should" to "must". Move to main document.	
Annex C	US (SPA WAR	C9.3.5			Is this a requirement?	Change "should" to "must". Move to main document.	

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Document: S-101 Product Specification 20140708 TSMAD29/DIPWG7 10.3B rev 4

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	)						
Annex C	US (SPA WAR )	C9.3.5	Para 1	te	For certain projections (e.g. Polar Stereographic) a north-up presentation doesn't make sense.	A north-up or grid-up orientation must be available.	
Annex C	US (SPA WAR )	C9.3.5	Para 3	te	A north arrow does not make sense for polar projections where north is a different direction for each point on the screen.	A north arrow or grid arrow (north arrow with "N" replaced by "G") is always required on the display.	
Annex	US NOAA	C9.3.6.1			I think this guidance is missing the fact that an overscale indication should be given if there is no other underlying data available when the mariner has selected a display scale that is larger than the maximumDisplayScale	Amend: The minimumDisplayScale and maximumDisplayScale of the ENC is the range of scal s at which the ENC was designed to be displayed. It may not be the same as the scale of the source data. As required by IMO Performance Standards, section 6.1.1, an overscale indication should be shown whenever the mariner selects a display scale that is larger than maximumDisplayScale.  To:  The minimumDisplayScale and maximumDisplayScale of the ENC is the range of scales at which the ENC was designed to be displayed. It may not be the same as the scale of the source data. As required by IMO Performance Standards, section 6.1.1, an overscale indication should be shown whenever the mariner selects a display scale that is larger than maximumDisplayScale and there is no other	

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						larger scale dataset within the mariners selected viewing scale.	
Annex C	US NOAA	C9.3.6.2.1	P1,2 and 4	TE	Compilation scale is no longer a concept in S-101 as it has been replaced by maximumDisplayScale	Replace instances of compilation scale in these three paragraphs with maximumDisplayScale.	
Annex C	US (SPA WAR )	C9.3.6.1	Para 1	te	There are two maximumDisplayScale attributes, one for the dataset, and one for each DataCoverage within the dataset. The overscale indication should be triggered by the maximumDisplayScale of the DataCoverage.	[] an overscale indication should be shown whenever the mariner selects a display scale that is larger than the maximumDisplayScale of a given DataCoverage.	
Annex C	US (SPA WAR )	C9.3.6.2.1	ALL	te	This is no longer possible as the compilation scale is not present in the data.  In any case, it is unclear how this should be computed when the display is compiled from more than one ENC with differing scales.	Remove requirement for display of overscale factor.  If not accepted, then clarify where scale factor should be displayed and how it should be computed for the case described in paragraph 2 of the comment.	
Annex C	US NOAA	C9.3.6.4	Entire Clause		Not sure if this clause meets the intent of the new loading and unloading algorithm that triggers the overscale	See Addemdum.	
Annex C	US NOAA	C9.6.3.5	Entire Clause		Not sure if this clause meets the intent of the new loading and unloading algorithm that triggers the overscale	See Addemdum.	
Annex C	US (SPA WAR )	C9.3.6.4	ALL	te / ed	This section contains conflicting requirements (paragraph 1 and paragraph 5), missing illustrations, and is hard to understand. Recommend rewrite as proposed.	ECDIS displays all chart data at the same scale. In order to avoid leaving part of the display blank, the display may be rendered using data from multiple datasets. These datasets may contain DataCoverages with varying maximumDisplayScales.	

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						The pattern AP(OVERSC01) must be used to indicate DataCoverage areas displayed {larger than, X2 or more larger than} the maximumDisplayScale; provided that the area was displayed automatically by the ECDIS in order to avoid leaving that portion of the display blank.	
Annex C	US (SPA WAR )	C9.3.6.5	Para 1	te	Showing both scale boundaries clutters the display of the larger scale data and adds no value to the mariner. This paragraph also conflicts with direction in C9.3.6.3	Remove paragraph. Add paragraph to C9.3.6.3: "When scale boundaries of smaller scale DataCoverage areas overlap larger scale DataCoverage areas, that portion of the scale boundary which intersects the larger scale DataCoverage area should not be visible".	
Annex C	US (SPA WAR )	C9.3.6.5	Para 2	ed	Already addressed in C9.3.6.3	Remove paragraph.	
Annex C	US (SPA WAR )	C9.3.6.5	Para 3	ed	Already addressed in C9.3.6.4	Remove paragraph.	
Annex C	US (SPA WAR )	C9.3.6.3 (2 <sup>nd</sup> occurrence)		ed	Section numbering is wrong from this point forward. "moves begins"?	Fix numbering. Fix wording.	
Annex C	US (SPA WAR )	C9.3.6.4 (2 <sup>nd</sup> )		ed	"The navigational purpose metadata field in the ENC catalogue file must only be used for folio purposes".  What does this mean? Also, per 12.1.3 there is no navigational purpose metadata field. Is this specificUsage as defined 12.1.1?	Clarify.	
Annex C	US (SPA WAR )	C9.3.6.7	Para 4	te	Navigational purpose is not available in S-101	"A graphical index of available data should be shown on demand"	

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Annex C	US (SPA WAR )	C9.3.9.5	Para 1	te	Polar projections should not use a north arrow	Change "North arrow" to "Orientation arrow"	
Annex C	US NOAA	C9.4.2	Text Groupings		Need to add Display Name as part of Feature Name in order for the right text to display	Add Display Name to each Feature Name	
Annex C	US (SPA WAR )	C9.6.3	Bullet 2	ge	"colour by mixing the fill and underlying colour"	Remove the duplicate wording from bullet 2. Remove "by mixing the fill and underlying colour"	
Annex	US NOAA	C9.8.4.1.1 C9.8.4.1.2 C9.8.4.1.3	Display Base		S-57 Attributes Acronyms need to be made camel case.  In addition, the following new features need to be added:  AIS Aid to Navigation Buoy Emergency Wreck Marking Collision Regulation Depth No Bottom Found Discoloured Water Foul ground Information Area Light air obstruction Light all around Light Directional Light Fog Detector	Amend the tables for the new features, remove deleted features, make acronyms camelCase.  Or conversely – remove the tables from S-101 as all the information is contained within the S-101 Portrayal Catalogue	

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					Light sectored Local Direction of Buoyage Offshore Wind turbine Pilotage district  Span Fixed  Span Opening Text Placement Update Information Vessel Traffic Service Area  Virtual AIS Aid to Navigation		
Annex C	US (SPA WAR )	C9.10.2	Para 2	te	Polar projections should not use a north arrow	Use arrow symbol with a "G" to show grid orientation when north direction is not constant for each point on the chart display window.	
Annex C	US NOAA	C9.10.7	Table	TE	List of feature for the detection and notification of Navigational Hazards needs to be updated to the latest S-101 Feature Catalogue	Add:  AISAidToNavigation  VirtualAISAidToNavigation	
Annex C	US (SPA WAR )	C9.10.7	Table	te	The entries in this table should be added to a dynamic registry / catalogue so that new feature objects can be added to this list without updating the	Create a registry / catalogue used to specify objects from the feature catalogue which should be evaluated as navigational hazards. Also used	

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					ECDIS software.	to identify objects for which special conditions exist.  Remove table and reference the catalog or make it clear that the table is representative of the current set of features.	
Annex C	US (SPA WAR )	C9.10.7	Table	te	The entries in this table should be added to a dynamic registry / catalogue so that new feature objects can be added to this list without updating the ECDIS software.	Create a registry / catalogue used to specify objects from the feature catalogue which should be evaluated as navigational hazards. Also used to identify objects for which special conditions exist.  Remove table and reference the catalog or make it clear that the table is representative of the current set of features.	
Annex C	US (SPA WAR	C9.10.7	Para 3	ed	Update reference to figure	"Fig XX" "Fig 7"	
Annex C	US (SPA WAR )	C9.10.7	Special Cond. Table	ed	Duplicate section number	Should be C9.10.7.1	
Annex C	US (SPA WAR )	C9.10.7	Special Cond. Table	te	The entries in this table should be added to a dynamic registry / catalogue so that new feature objects can be added to this list without updating the ECDIS software.	Create a registry / catalogue used to specify objects from the feature catalogue which should be evaluated as objects with special conditions. Also used to identify objects which should be evaluated as navigational hazards.  Remove table and reference the catalog or make it clear that the table is representative of the current set of features.	
Annex C	US (SPA WAR	C9.10.7	Fig 7	te	Figure description is confusing.	Fig 7. Example of indication highlight in ECDIS	

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	)						
Annex C	US (SPA WAR )	C9.10.9	Fig 8	te	No reference to Fig 8.	Change sentence before the table to read: "The point, line or area shall be graphically indicated using the presentation named as "dnghlt" in the portrayal catalogue, as depicted in Figure 8."	
Annex C	US NOAA	C9.11.3	Table	TE	Edition number and date of the ENC:	Are these now found in the XML metadata or do these map to the following:	
					The following 8211 fields no longer exist in S-101 –	DSRD and DSED	
					ISDT, UPDN, EDTN and UADT.		
					ISDT and UPDN subfields of the DSID field of the last update cell update file (ER data set) applied		
					EDTN and UADT subfields of the DSID field of the last EN data issue of current ENC issue of the ENC set		
Annex C	US NOAA	C9.11.4			This section needs to be harmonized with the latest DCEG	Lights have been split into four different features and each will need to be dealt with.	
DCE G 2	PRI MAR	2.4.3	Bullets points	te	Reasons for why attribute values may be mandatory are described with 3 bulletpoints in DCEG, and with 4 bulletpoints in S-101 Product Specification 10.1.5.  When information is duplicated perhaps it should be described using the same wording?	Adjust DCEG to S-101 Product Specification or vice versa.	

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DCE G 2	PRI MAR	2.5	Bullets points	te	Cancellation is missing	Cancellation: The dataset is cancelled and is deleted from the ECDIS.	
DCE G 2	PRI MAR	2.5.1	1 <sup>st</sup> paragraph	te	Include restrictions in number of Data Coverages, Ref S-101 Product Specification 4.5.3	An ENC dataset can contain more than one Data Coverage, but must not contain more than three total Data Coverage features.	

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#### **Comments from SPAWAR**

#### **SPAWAR Comment Clause 5.3**

Field	Subfield	Value	Description
CSID			Coordinate Reference System Record Identifier
	RCNM	15	Record Name (15 = Coordinate Reference System Identifier)
	RCID	1	Record Identification Number
	NCRC	2	Number of CRS Components
CRSH			Coordinate Reference System Header
	CRIX	1	CRS Index
	CRST	1	CRS Type (1 = 2D Geographic)
	CSTY	1	Coordinate System Type (1 = Ellipsoidal CS)
	CRNM	WGS84	CRS Name
	CRSI	4326	CRS Identifier
	CRSS	3	CRS Source (2 = EPSG)
	SCRI		CRS Source Information (omitted)
CRSH			Coordinate Reference System Header
	CRIX	2	CRS Index
	CRST	5	CRS Type (5 = Vertical)
	CSTY	3	Coordinate System Type (3 = Vertical)
	CRNM	Depth - mean lower low water	CRS Name
	CRSI		CRS Identifier (omitted)
	CRSS	255	CRS Source (2 = EPSG)
	SCRI		CRS Source Information (omitted)
CSAX	_		Coordinate System Axes
	AXTY	12	Axis Type (12 = Gravity Related Depth)

<sup>1</sup> **CO** = Contributing Organisation (HOs should use 2 character codes e.g. FR AU etc.)

<sup>2</sup> **Type of comment: ge** = general **te** = technical **ed** = editorial

<sup>3</sup> Whilst not compulsory, comments are more likely to be accepted if accompanied by a proposed change.

Date: 26 September 201 Document: S-101 Product Specification 20140708 TSMAD29/DIPWG7 10.3B rev 4

1	2	(3)	4	5	(6)	(7)	
Component	CO <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the CO <sup>3</sup>	Proposed change by the CO	Secretariat observations on each comment submitted

AXUM	4	Axis Unit of Measure (4 = Metres)
VDAT		Vertical Datum
DTNM	mean high water	Datum Name
DTID	16	Datum Identifier (16 = Mean High Water)
DTSR	2	Datum Source (2 = Feature Catalogue)
SCRI		Datum Source Information (omitted)

NOAA Comment Clause 12 Figure 21 - S-101 Exchange Set - Class details.

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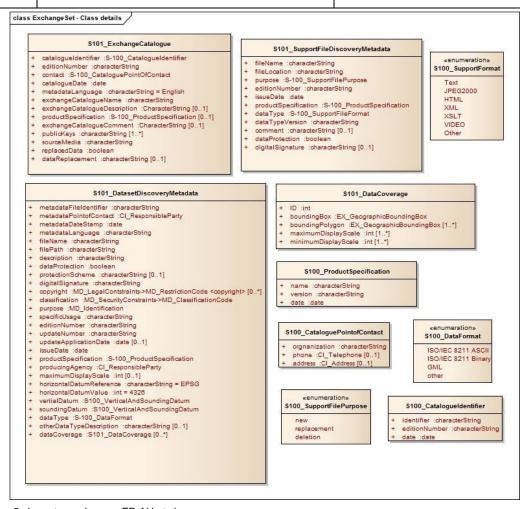
<sup>2</sup> **Type of comment: ge** = general **te** = technical **ed** = editorial

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1	2	(3)	4	5	(6)	(7)	
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1	2	(3)	4	5	(6)	(7)	
Component	CO <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the CO <sup>3</sup>	Proposed change by the CO	Secretariat observations on each comment submitted

#### **NOAA Comment:**

#### C9.3.6.4 Overscale area at scale boundary

All the chart data on the display must be shown at the same scale. In order to avoid leaving part of the display blank, the chart display may extend beyond the edge of a relatively largelarger scale ENC to include information from an adjoining smaller scale ENC, which may be from a different maximumDisplayScale. The smaller scale data will normallymust be enlarged to match the larger scale ENC, and in this case the "overscale area" symbol should be used to identify any part of the chart display shown outside the range that is between the maximumDisplayScale and the minimumDisplayScale.

NOTE This symbol applies only to the automatic overscaling performed by the ECDIS in matching ENCs at different **maximumDisplayScales**. It <u>mustshould</u> not be applied to an overscale display deliberately requested by the mariner, which <u>mustshould</u> trigger the overscale indication required by IMO Performance Standard section 6.1.1.

A different overscale situation arises when the ship approaches a scale boundary from a larger to a smaller scale ENC, typically when leaving harbour. In combining data from the large scale and the small scale ENCs to generate a display at the larger scale, the ECDIS will have "grossly enlarged" the small scale data.

In addition to drawing the scale boundaries, the "grossly overscale" part of the display shall be identified with pattern AP(OVERSC01), as illustrated. Its display priority is 3; over-radar; standard display; viewing group 21030.

In this context, "grossly enlarged" and "grossly overscale" shall be taken to mean that the display scale is enlarged/overscale by X2 or more with respect to the maximumDisplayScale. For example, at the left edge of Fig 5 the display scale of 1/12,500 is X4 the maximumDisplayScale of 1/50,000, and so the overscale pattern is required.

Note that in this situation the pattern AP(OVERSC01) shall only be shown on the area compiled from the smaller scale ENC. If the area from the larger scale ENC is also overscale, this shall be indicated by the "overscale indication". The pattern AP(OVERSC01) shall not be shown on the part of the display taken from the larger scale ENC. For example if the display scale of the situation in the data coverage diagram was 1/3,500 the area of compilation scale 1/12,500 would have an overscale indication of X 3.6 but would have no pattern AP(OVERSC01).

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	20140700 TOMAD23/DII WOT 10:3D TCV 4

1	2	(3)	4	5	(6)	(7)	
Component	CO <sup>1</sup>	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of com- ment <sup>2</sup>	Comment (justification for change) by the CO <sup>3</sup>	Proposed change by the CO	Secretariat observations on each comment submitted

#### C9.3.6.5 Automatic overscale at a scale boundary

Where ENCs of different **maximumDisplayScale's** overlap, the ECDIS display of the overlap area <u>must</u>should show two "chart compilation scale boundaries", at the beginning and end of the overlap. Beyond one boundary the part of the display taken from the smaller scale ENC will often be grossly overscale.

Only the major changes in compilation scale resulting from a change in "navigational purpose" should be shown as scale boundaries on the display. Small changes in compilation scale within a navigational purpose should not be shown.

When the display cannot be completely covered with ENC data for the selected **maximumDisplayScale**, the remaining part of the display <u>mustshould</u> be filled with data from the next smaller **maximumDisplayScale** (if available).

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