Paper for Consideration by TSMAD DCEG sub-working group

Status of latest proposals

Submitted by: S-101 Work Item Leader

Executive Summary: This paper provides a brief summary of the last round of DCEG actions

Related Documents: S-101 DCEG

Related Projects: S-101

Introduction / Background

After the last DCEG review meeting in May 2012, there were a series of actions that required further correspondence between meetings. This paper summarizes the status of each action item and provides a jumping off point for further discussion. Please note that this is only a small snapshot of the discussion summaries and the full results can be found in an annex to this paper.

In addition to working through the actions from the May meeting, the DCEG sub working group has also undertaken a full review of the feature section of the DCEG. As a result there are an additional 211 comments, of which 153 require additional discussion by the DCEG subworking or TSMAD.

Analysis/Discussion

Number	Action	Who	Status
DCEG.1	Include guidance on populating the discovery metadata for the dataset in the DCEG.	JW,TR ,JP	In work
Comment	Still needs review by the DCEG subworking group		
DCEG.2	Need to figure out how the convertor will deal with Minimum Display Scale as it does not have an equivalent mapping in S-57 and how does this impact loading strategy on ECDIS. Need to test converted data with using a hard value.	TR,JP	In Work
Comment	Deferred to TSMAD25 discussion (Paper number 4.5.8)		
DCEG.3	Agreed to remove RECIND from S-101	JW	Complete
DCEG.4	Agreed to remove SORIND from S-101 as the update information meta type will cover the need for the notice number	JW	Complete
DCEG.4	Agreed to remove RECDAT and SORDAT	JW	Complete
DCEG.4	Need to create a proposal for Reported Date and this goes soundings and other features that use reported	JP,JW	Discussion needed
Comment	The proposal for reported date was agreed to consensus was achifollowing features: Sounding Underwater Rock Wrecks Obstruction Foul Ground Pingos Local Magnetic Anomaly Sandwave Water Turbulance	eved to b	ind it to the

	There was not a consensus agreement for Discoloured Water and discussion under DCEG.20	this requi	res more	
	The United States (NOAA) also proposed to add Dredged Area to have minor dredged areas where the depth was reported.	the list as	you can	
DCEG.5	New Complex: Periodic Date Range – mult – 0,* sub attributes of date start and date end are mandatory. Ordered	JW, JP	Completed	
DCEG.6	***ISO 8601:2004 implication vice 1988 – Jeppesen paper New Complex: Survey Date Range – mult – 0,* sub attributes of date start and date end and date end is mandatory. Ordered ***ISO 8601:2004 implication vice 1988 – Jeppesen paper	JW,JP	Completed	
DCEG.7	New Complex: Fixed Date Range – mult – 0,* sub attributes of date start and date end and date end is mandatory. Ordered. ***ISO 8601:2004 implication vice 1988 – Jeppesen paper	JW, JP	Completed	
DCEG.8	Create a complex for RADWAL – add to tracking	TR	Accepted - needs to be added to DCEG	
Comment	Consensus achieved and proposal to be added to the DCEG. Australia had a few minor edits where the sub-attribute "wave band should be radar band.			
DCEG.9	Update Information – create a worked example on how it would work through the entire pipeline from producers to display.	TR	In Process	
Comment	UKHO to prepare a revised proposal with a worked example and to comments made by the DCEG subwg.	ake into c	oncern the	
DCEG.10	Create proposal to amend cathaf = 12 syncro lift to boat lift and use synchro lift as an example	GU	Discussion needed	
Comment	Consensus was not achieved. Requires more subwg discussion be comments	ased on t	he	
DCEG.11	Bathymetric Quality indicators will be optional for scales 700,000 and smaller.	JW	In Process	
DCEG.12	 Quality of Non-Bathmetric data: subWG recommends to accept the proposal with three exceptions: Category of temporal variation to be removed as it is not considered relevant for ENC. This means that it would not be bound in the FC to Quality of Non Bathymetric data. It will still be registered. Orientation Uncertainty be included at the relevant feature level rather (eg NAVLNE,RECTRC) at the meta level. Horizontal Distance Uncertainty should be at the feature level and not at the meta level 	JW, JP to report to DQWG	In Process – waiting for DQWG	
DCEG.13	Orientation Uncertainty should be part of a complex attribute for orientation, which sub attributes orientation value and orientation uncertainty	JP to report to DQWG	Completed – waiting on DQWG	

DCEG.14 Quality of Bathymetric Survey Data: subwg feels that the level of granularity in this meta feature is too granular for an ENC. It is more suited to S-44. Subwg would retain the existing M_QUAL attributes but add category of temporal variation as that is one of the items that we are missing within the current M_QUAL feature that would provide additional benefit to the mariner. We would recommend that un-assessed be removed as an allowable attribute value (temporal variation). We also noted that there needs to be a mechanism to give more information regarding to the event that affected the seafloor. Recommend looking at the ennumerants for category of temporal variation to come up with more meaningful values. Unsure what event really would convey to anyone and changing Likely to change/unlikely to change to subject to change/not subject to change. This conclusion was reached after lengthy discussion and it was concluded that for an ENC this was too detailed and most of the attribution that was recommended would have to hidden from the mariner and that the main focus should be improving portrayal. Revisit the CATZOC definitions. DCEG.15 Quality of Survey: Accepted as is This feature is more specific to the survey and is and the attribute that are suited to S-44 would belong here DCEG.16 Accepted Seabed Area Proposal with a slight modification to the multiplicity of NATQUA 0,3 DCEG.17a Need to develop an Information Area proposal. Then there needs to be discussion on if they can be harmonized into a single feature. Comment Comment Consensus achieved on the feature. More discussion needed on how it is to be used DCEG.17b Need to develop a COLREGS feature. Then there needs to be discussion on if they can be harmonized into a single feature. Comment General agreement on the feature, the issue is if it should be a curve, surface or both. Hence some more discussion needed. TR Discussion needed Create a new feature for Depth Discontinuity TR Discussion needed Create a new feature for Disco					
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DCEG.19 Need to add a Boolean to indicate major/minor light for all around single sector light Completed	Comment		iter. At is		
	DCEG.19	Need to add a Boolean to indicate major/minor light for all	JW	Completed	
	DCEG.20		JW	Discussion	

	lights.		needed
	Not yet done		
	*** Check with SNPWG because they have used a complex		
Comment	Consensus not achieved. In addition, there is a SNPWG paper to	TSMAD o	n this topic.
	Propose deferring to TSMAD25. At issue is what is the value of ha	ving this i	n S-101
DCEG.21	Talk with IALA regarding what attribution is really required for	TR	In Process
	Fog Detector Light or if they are needed for ENC		
DCEG.21	No Bottom found feature – remove QUASOU	JW	Completed
	Then remove QUASOU = 5 as an allowable attribute for all		
	features that use QUASOU		
DCEG.22	Propose an association between pilot district area and PILBOP	RF	Not Started
Comment	Need to document what the use case is for this.		
DCEG.23	Add INFORM as a sub attribute to TOPMARK	JW	In Process
DCEG.24	Propose an association between VTS area and RDOCAL	RF	Not Started
Comment	Need to document what the use case is for this.		
DCEG.25	COMCHA needs a complex attribute the proposal needs	TR	Discussion
	developing		needed
Comment	Consensus not achieved – more discussion needed		
DCEG.26	Investigate a Boolean for Multiples and list the features that it	GU	Discussion
	would be used for		needed
Comment	Consensus not achieved on the features that it should be bound to	o. The P	rinciple of a
	Boolean for multiples was agreed to.		
DCEG.27	Create a Boolean for in the water and for the features listed in	JW, TR	In Process
	comment 740 in the master comment sheet and it would be put		
	in the standard display		
DCEG.28	TSMAD discussion:	ALL	Not Started
	Propose to put RIVERS, CANALS, LAKARE, DOCARE and LOKBSN in the list of Group 1 features. There will no longer have a need to add additional feature		
	underneath. An alternative solution could be to create a specific new Group 1 feature,		
	and to encode it coincident with the RIVERS, CANALS,		
D050 00		DE T	
DCEG.29	Investigate the upper limit of INFORM and make it part of the	RF. Tom	In Process
	pick report guidance and think about formatting the INFORM in		
	the pick report		

List of Supporting Papers:

- 1. Voting Summary Sheet
- 2. Proposals

Summary of DCEG Proposals and next steps:

Dear DCEG Members:

The following table represents the status of the proposal review. If the group had general concurrence then the proposal is ready to be incorporated into the DCEG. If there were questions or comments, I have attempted to summarize them and formulate a proposed solution. If you agree with the proposed solution please vote yes, if not please vote no. After this round if we are still lacking agreement on some proposals we will then defer them to a one day subwg meeting prior to TSMAD.

Number	Action	YES	NO		
DCEG.2	Need to figure out how the convertor will deal with Minimum Display Scale	Deferred	to a		
	as it does not have an equivalent mapping in S-57 and how does this impact	TSMAD pa	aper.		
	loading strategy on ECDIS. Need to test converted data with using a hard				
	value.				
	SHOM and Jepessen proposed Changes. It was also noted that this should				
	be a full paper for TSMAD discussion rather than the subwg.				
DCEG.4	Need to create a proposal for Reported Date and this goes soundings and	VOTE PLE	ΔSF		
DCLO.4	other features that use reported.	***************************************	AJL		
	While there was general agreement, SHOM proposed three additional				
	bindings – Discoloured Water, Sandwave, and Water Turbulance.				
	Please indicate if you agree to each new binding:				
	US: We would also like to proposed DRGARE as a binding				
	AU comment: See DCEG20 below.				
	Discoloured Water				
		US, NL, JP, NO,	CA, AU*		
		FR, UK			
	Sandwave	US, CA,			
		NL, AU, NO,			
	Water Turbulance	US,CA,			
		NL, AU,			
		NO,			
		FR?, UK			

DCEG.8	Create a complex for RADWAL – add to tracking	VOTE PLE	ASE
	General Agreement, need to fix proposal for inconsistencies.		
	Note: Fixed the spelling issue and added a new attribute Sweep Period to eliminate the need for Inform.		
	Australia noted the following: It would be worth noting that, in terms of wave band, there is an enumerated attribute "Radiofrequency band", having a list of coded domain values for varying band widths, in the DGIWG FDD, which we may want to consider adopting? The problem with it is the definition references to "The satellite frequency band" in the enumerate values.		
	NOTE: The revised proposal does not include all of Australia's comments. Would like to get general agreement on the attribute structure with the understanding that we still need to work on definitions. AU comment: Agree to revised proposal with the caveat above. Additionally, the sub-attribute "wave band" in the proposal should, in AU's view, be "radar band". This fits with the current S-57 definition for RADWAL, which is "The distance between two successive peaks (or other points of identical phase) on an electromagnetic wave in the <u>radar band</u> of the electromagnetic spectrum".		
	Does the group agree to the revised Proposal?	US, CA, NL, AU*, NO, FR, UK	
DCEG.9	Update Information – create a worked example on how it would work through the entire pipeline from producers to display.	Propose to consider to comments	hese
	General Comments: This proposal/example needs some more work.	prepare a	revised
	US(NOAA): Should be automated by the software	subwg and	
	SHOM: The optional or mandatory character of the rules does not clearly appear in this paper. For consistency between the different producers, I think that the creation of an Update Information feature should be mandatory for every update (ER), but optional for a new edition (as it may only be useful for a limited edition).	TSMAD	
	2J: We have a concern about the last line regard removal: If a vessel applies a few updates at once for a single chart e.g. when coming to port, then the removal mechanism will only show the latest update.		
	Norway: For update information I would also like to have this removed only by new edition and not the next update. Even if we produce updates on a daily basis, our customers do not necessarily receive them that often, and they would risk getting several updates at once (even within one week) and not getting this update information for each update. So either only remove at next new edition or after a given time limit i.e remove at next update only if the previous update is more than say 3 months old		
DCEG.10	Create proposal to amend cathaf = 12 syncro lift to boat lift and use synchro lift as an example.	VOTE PLE	ASE
	The following has been proposed. Amend the definition: Remove: (larger than boats) Why make a distinction between large and small boats? When you remove these few words you can use CATHAF 12 (shiplift) for both. Easy and you don't have the discussion when is a boat large or small Does the Subwg agree to the definition change?	US, CA, NL, JP, NO. FR, UK	CA, AU*

		1	1
	AU comment: There are a couple of issues with this that need to be further discussed. There is also CATSCF = 3 (boat hoist), and the text "(larger than boats)" currently in the definition for syncrolift provides a clear distinction between the use of these enumerate values (particularly as CATSCF is related to small craft facility). Removing the bracketed text could result in confusion in compilation, or different encoding for the same feature. Additionally, "Sycrolift" was the trademark name for the company (now owned by Rolls Royce) that developed this specific type of lift, and it would be interesting to see if there are other systems in use for the lifting of ships out of the water. From this perspective, agree that it would be worth re-naming the enumerate value to "ship lift" and using syncrolift as an example of a ship lift, as in the original proposal.		
	If you agree to the definition change then do you agree to the following:	US, NL,	CA*,
	Does the subwg agree to the removal of CATSCF=3 (boat hoist)?	JP, NO,	AU*, UK
	CA Comment: CANNOT Drop CATSCF=3 Unless we combine CATHAF and	111	
	CATSCF values and use same list for both HarbourFacility and SmallCraff Facility		
	AU comment: See above – most boat hoists are not syncrolifts, which consists of a set of synchronized hoists or winches. Most boat hoists (for small vessels) that I have seen consist of a cradle on a single hoist or winch.		
DCEG.17a	Need to develop an Information Area proposal	VOTE PLE	ASE
	Several comments were made regarding the fact that there needs to be more guidance when to use an information area and that if we are using the term not significant for navigation – then why do we need an information area? In addition, the existing UOC states the following: Information which may be of use to the mariner, but is not significant to safe navigation and cannot be encoded using existing feature objects, should be encoded using an M_NPUB object (see clause 2.5), and using the attributes INFORM and/or TXTDSC (see clause 2.3). As M_NPUB of type area do not display in ECDIS, such areas should be encoded to cover the entire area of data coverage for the cell. This encoding is intended to reduce the number of alarms or indications generated in the ECDIS due to the overuse of CTNARE objects. It should be noted that in S-101 there will be portrayal for M_NPUB, therefore why is it necessary to have another feature that does the same thing. As we have the ability to easily add new features, TSMAD can just add a new feature for a specific purpose rather than using a catch all feature.		
	If you would prefer to keep Information Area, do you agree to the revised proposal?	US*, CA, NL, JP, AU*,	
	US COMMENT: that it would need more consensus clarification as to when to us it, with more specific examples, i.e. Buoy' not charted area, etc	FR, UK	
	In addition, it would be useful if there was a hierarchy diagram to provide a clear distinction about when to use M_NPUB, Information Area and Caution		

DCEG.17b	Use of M_NPUB has been a workaround in S-57. Need a similar way to encode generic information and information area seems like one way to go. Even if it is easy to add new features within the S-100 concept it will likely take years after first proposal before it is ready for use in the product. COLREGS Feature There were several comments to harmonize regulation citation with SNPWG. In researching the SNPWG proposal, they have created a new feature for Regulations, whereas TSMAD is looking for just a new attribute to note what the regulation is. Australia noted that it should be either a curve or a surface, but not both. The US concurs (as we have the COLREGS) and would at this time prefer an area so the Mariner knows when they are in the area of different rules. The reason we asked for the bulletin to be amended is because we can only use a Caution Area and this area would take up most of the ENC. However, perhaps this should be put forward to the mariners. Does the subwg agree to the revised proposal – added Nationality per SHOMs comment, removed the line primitive? US COMMENT: As one of the member states that charts Colregs we would prefer a line if we had to pick between the two. AU comment: Would prefer the line (curve) primitive be used rather than area (surface), as per AU original response to this proposal. AU is concerned that encoding as surface will require encoding of areas	US*, CA, NL, NO, FR	JP, AU*, UK
	Area. For example, if it covers the whole cell an M_NPUB might be better, but if it is localized then an Information Area, and if it requires particular attention by the mariner for an alarm then a caution are. For example, with our recent hurricane, we are adding a note to the ENC stating that the shoreline may have significantly changed. It would be buried in an N_NPUB, doesn't really require a CTNARE but an Information Area would be perfect. AU comment: M_NPUB is used as a work-around in S-57 to encode information that is not significant to navigation and no other feature can be used. This is not strictly the correct use of M_NPUB, which is intended to capture additional information from nautical publications that it is considered may be of use to the mariner. Most of the information that would be encoded using the new proposed feature and information types will not necessarily be taken from nautical publications, therefore see this as a reason to keep the Information Area. Indeed, if there are various S-10X Product Specifications developed which can capture information that is currently found in nautical publications that mey be used in a "back of bridge" ECDIS, there may eventually be an argument to retire M_NPUB? NO Comment: Not ready to cast a vote on this, feels it needs more discussion and possibly some examples first. You may wish to provide		

!	need to know as they need to ald be that this aich can carry an	leaving an area that is subject to one set of COLREGs and entering an area that is subject to another set of COLREGs – they do not need to know when they are anywhere in an area the set of regulations they need to adhere to (they should already know!). AU opinion would be that this would be best achieved by encoding a linear feature, which can carry an alarm to notify the mariner that they need to be aware that they will be entering an area that is subject to different regulations.
different discontinuities.	at is shown on the sto highlight ree Diagram stuations where not agree it should line on what cases in not, it would be sine, along the should not be ga (about 3mm) his gap in with e only be allowed. encoded using meed to be added his. up directly with sof their work of the temporal he display of the em for us, and we he latest (or best) urvey, and the gathe edge of the he bathymetry. Hopefully the will then provide in to make an ot the case, AU the edge of the he rerage. After all, which there is a option would be vailable in any	There appears to be more discussion needed on this feature: US(NOAA): How is this different from M_QUAL. M_QUAL is shown on the ENC at scale. Depth Discontinuity is used on paper charts to highlight something at scale, which cannot be depicted on the Source Diagram SHOM: add "or a line" in the IHO definition. Change the wording to read: If it is required to encode situations where different surveys conducted at different times which do not agree it should must be done using the Depth discontinuity feature. 2J: We believe we should give HOs a more specific guideline on what cases will require this feature. Surveys disagree more often than not, it would be useful to define what is unacceptable disagreement AUS: The problem as AU sees it is how to encode the area, or line, along the discontinuity. On giving this further thought, we feel we should not be simply adopting the guidance in S-4 in regard to depicting a (about 3mm) gap between the depicted bathymetry and trying to fill this gap in with something. Therefore AU recommends that line primitive only be allowed. If there is a genuine gap between surveys, this should be encoded using Unsurveyed Area. Additional guidance to this effect will need to be added and amendment of the above guidance done to reflect this. While AU does not think that we need to bring this issue up directly with DQWG, I think that we should wait to see what the results of their work brings to the table, particularly in terms of incorporation of the temporal aspect to quality of bathymetric data and its impact on the display of the data quality indicators in ECDIS. This may solve the problem for us, and we would simply need to incorporate some guidance that the latest (or best) survey information must be compiled to the limit of the survey, and the older survey information compiled up to the line defining the edge of the newer (or better) survey, which will result in a "step" in the bathymetry along the line (and perhaps provide an example diagram). Hopefully the display of the Qual
DCEG.18b Discoloured Water VOTE PL	VOTE PLEASE	

	Norway and Australia proposed that this be added as an attribute to CATOBS for Obstruction rather than a new feature.	CA*, JP, AU, UK	US*, NL
	Does the group agree to this proposal? US comment: Our reasoning is that it may not really be a obstruction to surface navigation. It is one of those things that you just don't know.		
	CA Comment: If CATOBS is expanded as above, perhaps we need to have a multiplicity of more then 1 as well		
	NO Comment: Not voting on this, can live with both options, just raised the question whether it was better to add a new enumerate to CATOBS instead of creating a new OBSTRN-like feature. It may be valid reasons for adding a new feature. In general do not like questions like this being resolved by simple majority votes instead of reaching consensus on the "best" way to go.		
	If you do not agree to adding Discoloured Water to OBSTRN. Do you agree binding Reported Date?	US, NL, NO, FR	
DCEG.20	NOTE: Reported Date is already bound to OBSTRN Add new attribute for light list number (Text) and add to all five lights. *** Check with SNPWG because they have used a complex	VOTE PLE	ASE
	This proposal was an attempt to harmonize with SNPWG. It was noted that SNPWG did not include a notation for National and International numbers and one member suggested that it be treated as a simple text string. However, a complex would be needed to add in a notation for national and international numbers.	CA, NL, NO, FR, UK	US*, AU*
	Also Australia noted the Following: One of the considerations that should be made when determining the attribution of features in ENC is whether the information is required in the base ENC dataset in terms of its relevance to safe navigation. If SNPWG have developed a complex attribute for its purposes it would be assumed that this would be included in an S-10X Product Specification to be used as an information overlay in ECDIS. If such is the case is there a requirement to include this information in the base ENC? AU would prefer any information that is included in the Light List that is not already included in the ENC but is considered to be fundamental to safe navigation (if there is anything) to be appropriately modelled in S-101 rather than referencing information in a related publication via an attribute.		
	NOTE: SNPWG has yet to develop a product specification for light lists.		
	Does the group agree to the amended proposal? (Note that due to timing it has also been sent to SNPWG)		
	US COMMENT: We are not convinced that the Light List number would be that useful to a mariner, and it would be more of an issue to the HO's who need to keep it updated weekly for changes coming from respective Coast Guard authorities. This would mainly be applicable to the National Numbers Our opinion is that it should be valid for the register but not be put into S-101 and that perhaps it be deferred to IALA.		
	AU comment: AU stands by the comments made against the original proposal as repeated above. We consider this not to be a requirement for ENC, as any information that is in the LL that has to be in the ENC (as it is navigationally important information) should be appropriately modeled,		

			1
	and not referenced via a reference to another publication. However, that		
	is not to say that this proposal should not be evaluated in terms of the		
	IHO Geospatial Registry for other purposes, so would be in favour of waiting on feedback from SNPWG.		
DCEG.25	COMCHA needs a complex attribute the proposal needs developing	VOTE PLE	ASE
	NOTE: I looked at the SNPWG FCD and did not specifically see a complex	US, CA,	AU*
	for COMCHA, they did define a bunch of simple attributes for the individual	NL,	
	items such as fax and email	NO*, FR, UK	
	Does the group agree to the amended proposal? (Note that due to timing it has also been sent to SNPWG)		
	AU comment: Refer to AU comments on the original proposal. We need to keep in mind that ENC is the base navigation dataset in ECDIS, and we		
	do not want to reduce the emphasis of the important information in the		
	ENC by having a lot of other information that is not important, or is not required at all in terms of navigation. As stated in the AU comments on the original proposal, this should be the subject of a question(s) to		
	mariners as to its validity in terms of navigation.		
	NO Comment: But assume communication information is more generic than just for pilot boarding places?		
DCEG.26	Investigate a Boolean for Multiples and list the features that it would be		
	used for Does the group agree to add the following to the list:	VOTE PLE	ASE
	Note: that more specification is required on how this should be used and will be discussed in January.		
	CA Comment: For Features like obstructions and rocks, these may become areas if multiplicity is set, or for area objects is the multiplicity implied?		
	AU comment: See comment for DCEG25 above. How can this information be of any possible use to the mariner? Can see how this may be		
	something that a producer will want to store in their database, but in		
	terms of navigation the mariner only wants to know that there is a possible obstruction to navigation, not that there are 15 underwater rocks		
	in the obstruction. Recommend that this Boolean be used only where it is useful for visual navigation, i.e. on topographic features.		
	NO comment: No objections to adding it to the listed features, but acknowledge that others may have valid reasons for not adding it. In that case more discussions will be needed, and not just a majority decision.		
	Obstruction	US, CA, NL, NO	AU, FR
	Underwater Rock	US, CA,	AU, FR
		NL, NO	
	Wrecks	US, CA, NL, NO	AU, FR
	Submarine Cable	US, CA, NL, NO	AU, FR
	PIPSOL	US, CA, NL, NO	AU, FR
	BCNXXX	US, NL, NO, FR	CA, AU
	BOYXXX	US, NL,	CA, AU
		NO, FR	, -