

S-164 and S-98 Update

S-100WG – Singapore 14th November 2023

S-164 / S-98 subgroup

- Progress Update
- Issues
- Dataset Development
- Remaining Work
- Timeline

The screenshot shows the GitHub repository page for 'S-164-Sub-Group'. At the top, it indicates the repository is 'Public' and has 'Unwatch' and '10' notifications. Below this, there are navigation options for 'main' branch, '1 branch', and '2 tags', along with buttons for 'Go to file', 'Add file', and 'Code'. A commit history table is visible, showing a commit by 'kusala9' titled 'missing S100_ROOT in DisplayBase' from 3 weeks ago, and two other commits: 'Example test datasets v1' from 5 months ago and 'Update README.md' from 4 months ago. The main content area displays the 'README.md' file, which includes the repository title 'S-164 Sub-Group', a description of the repository's purpose, and a list of guidelines for issue tracking. The guidelines specify that issues related to ENC content (S-101) are tracked in the S-101 repository, exchange set construction for S-164 is described here, S-98 issues are tracked in their own repository, and general issues should be referred to linked repositories to avoid duplication. A section titled 'Looking for Test Data?' provides further details on the repository's content, including intermediate releases, datasets, keys, certificates, and the most up-to-date test data in the 'Exchange Sets' area.

S-164-Sub-Group Public Unwatch 10

main 1 branch 2 tags Go to file Add file Code

Commit	Author	Message	Time
76ac98a	kusala9	missing S100_ROOT in DisplayBase	3 weeks ago
		Example test datasets v1	5 months ago
		Update README.md	4 months ago

README.md

S-164 Sub-Group

This repository contains S-100 test datasets and the test dataset manual. It also tracks issues related directly to the development of S-164 and any impacts they have on the development of IHO S-98 as well.

As agreed by the group in discussions

- Issues relating to ENC content (i.e. S-101) will be tracked by the S-101 IHO repository
- Issues relating to exchange set construction for S-164, and how tests are described in S-164 are also described here
- S-98 has its own repository [here](#) where issues can be raised and tracked. As most S-98 issues will require testing they may also be tracked here. Where issues affect both they will be referred to in the description
- In general issues in other repositories should be referred to linked to avoid unnecessary duplication

Looking for Test Data?

- This repository holds intermediate releases of test data and the accompanying manual. Releases are compiled whenever a group of tests are ready and documented in the manual. Releases are then available from this repository on the [releases](#) page.
- This repository also contains datasets, keys, certificates and other items required for building the various test datasets. These often include "broken" catalogues and datasets, older versions and items of dubious provenance. These are all contained in the [staging](#) folder, with appropriate warnings. **Do not attempt to use the staging datasets**
- The most up to date test Data, in the form of exchange sets, are in the working [Exchange Sets](#) area. These can be used/tested and issues raised as appropriate. These exchange sets may be under development but represent the most up to date versions outside the bundled releases. All releases are compiled from there.

S-164 / S-98 Update

- S-164 development is continuing with a release plan of exchange sets. Work will continue in 2024 to complete all exchange sets and deliver new editions for approval.
- All data in S-164 is delivered via exchange sets, no single cell installation is required on the ECDIS
- Exchange Sets will bundle all required components together
- Release plan includes
 - Catalogues
 - Certificates / Digital Signatures
 - Interoperability
 - ENC
 - Other products.

The Challenges

- **Dialogue:** There are few places where all the relevant parties sit around a table to agree how S-100 ECDIS is implemented. Some things have to be agreed through other groups before they can be incorporated.
- **Rework:** Changes to schemas, content, catalogues means exchange sets have to be remade. An automated process had to be constructed to avoid continuous rework of exchange sets. We can't extend this to dataset update (yet)
- **Functionality:** Some of the ECDIS functionality isn't present (together) in any of the testbeds available to the subgroup yet. Interoperability, Dual Fuel, User selected safety contour / WLA, Update Status Report. Multiple products.
- **Dependencies:** Some of the moving parts we deal with...
 - IHO implementation of the security scheme
 - Publication of "live" versions of product specifications, complete with all necessary parts current with latest edition of S-100.
 - Publication of operational versions of all catalogues including interoperability
 - Timelag of publication and dataset update.
 - How the S100 ECDIS functions – S-98 Annex C

Approval process for S-98 Annex C changes

- S-98 Annex C is still open, and is at version 1.0.0
- Changes to S-98 Annex C can have significant impacts
- The sub working group presents, for transparency, as complete a picture as possible of its activities and will also seek explicit S-100 WG approval for changes to S-98 Annex C when:
 - They represent a change in scope of the document
 - Changes will modify how IMO requirements should be met by an implementer
 - Changes have an impact on multiple product specifications and data encoding

S-164 – Progress Update

1. S-164 has adopted a (purely) exchange set model, as specified in the initial draft.
2. An automated process for creation of exchange sets has made re-issuing of exchange sets easy. Additionally, the S-101-Test-Datasets repository can now be directly accessed, so when new datasets are issued they can be incorporated easily.
3. A set of keys, certificates and signatures is now created to produce the Part 17 and Part 15 elements required. This has been used to generate the current set of exchange sets.
4. The focus is now on data content within the S-164 test datasets
 1. List of requirements is in progress, covering all the Phase 1 products in scope.
 2. Although most of the datasets are produced (by S-101-Test-Datasets), a significant number will need revisions to fully exercise the required aspects of the portrayal model,
 3. Revisions will then need further work as significant issues such as data loading and version mapping are agreed.

S-164 – Progress Update

1. It is not clear how the upgrade from 1.2 to 2.0 of S-101 will be handled, if edits have to be reworked this could potentially be a significant effort.
2. A timeline has been drafted covering S-164 development from November to HSSC, which takes into account S-101 development and each of the groups of exchange sets required in the final version.
3. An updated version of S-164 will be produced, which incorporates all up to date changes, complete with TDS manual, ready for subWG review and approval prior to submission to HSSC. The draft will be circulated to subWG during the Feb 2024 S-101PT meeting. They will also be available for review/acceptance by S-100WG TSM (March 2024), then sent to HSSC for endorsement.

S-98 (Annex C)

1. A number of issues have been raised against S-98 Annex C, in fact the vast majority of issues concern S-98 Annex C, not the main body of S-98.
2. Many of these are being progressed in other subWG, (mostly S-101PT).
3. S-98 will mostly document the end result of accepted proposals which specify how mandatory IMO requirements are to be implemented on the ECDIS.
4. Many of the papers submitted to S-100WG will also have an impact on S-98 Annex C (and S-164)
5. In addition, two proposals are presented for explicit S-100WG approval. These concern:
 - a. **A change in scope to include a separate appendix to Annex C defining validation tests between different product specifications. This is discussed and proposed in a separate S-100WG paper**
 - b. **A change in scope to include the portrayal specifications for Manual Updating and Editing. This has been agreed by the S-164/S-98 subWG but would require resources to prepare and, due to the novel nature of the solution is presented for approval by S-100WG**
6. Incorporation of agreed changes to S-98 Annex C are in progress. As more changes are agreed, they will also be incorporated. An initial draft will be presented to the working group by the end of 2023 for review and wider distribution at S-101PT and S-100TSM.

S-164 Dataset Creation Update

- Now have a draft S-164 v1.0.0 which is being supplemented with exchange sets and updated
- Master list maps
 - List of tests -> Exchange Sets
 - Exchange Sets -> Data components(and catalogues required)
- 277 tests, ~70 exchange sets
- Scheming has kept the number of discrete datasets to a minimum

1				
2	Test Name (Short)	Description	Exchange Set(s)	Settings
3	InitialCatalogues	Successful initial loading and confirmation of versions of multiple catalogues.	PowerUPCatalogues	
4	InvalidCatalogues	Rejection of Invalid feature catalogue	PowerUpCatalogues	
5	InvalidPC	Rejection of Invalid portrayal catalogue	PowerUpCatalogues	
6			CorruptPortrayalCatalogue	
7	OutOfSequenceCatalogues	Loading datasets for which no valid catalogue exists	PowerUPCatalogues	
8			UpdatedCatalogueData	
9	UpdateCatalogues	Successful updating of catalogue versions	PowerUPCatalogues	
10			PowerUpCatalogueUpdates	
11	NewCatalogues	Successful installation of data matching new catalogues	PowerUpCatalogues	
12			NewProduct	
13	InitialPowerUp	Initial loading and portrayal of datasets (all products)	InitialPowerUp	
14	PowerUp	Confirmation of version information in System Database	PowerUp	
15	AdditionalCell	Loading initial datasets (for multiple products)	PowerUp	
16			AdditionalCell	
17	RemoveCell	Removal of a datasets (for multiple products)	PowerUp	
18			AdditionalCell	
19	CorruptData	Successful rejection of invalid data	CorruptData	
20	CorruptUpdate	Successful rejection of invalid updates data (multiple products)	PowerUP	
21			CorruptUpdates	
22	SequentialUpdate	Review of update information	PowerUp	

Supporting Part 15 implementation

- Keys and certificates have been created, signed and used for digital signatures in the existing datasets
- Uses roles in Part 15 certificates and MRN identifiers of organisations, e.g. “urn:mrn:iho:org:00AA:1810”, approved by NIPWG.

- Certificate roles are:

1.DATA_PRODUCER

2.OTHER_DATA_PRODUCER

3.DATA_AGGREGATOR

4.AGGREGATOR

5.SCHEME_ADMINISTRATOR

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<S100SE:StandaloneDigitalSignature xmlns:S100SE="http://www.iho.int/s100/se/5.0"
xmlns:ns2="http://standards.iso.org/iso/19115/-3/gco/1.0">
  <S100SE:filename>CATALOG.XML</S100SE:filename>
  <S100SE:certificates>
    <S100SE:schemeAdministrator id="IHO"/>
    <S100SE:certificate id="urn:mrn:iho:org:00AA:1810"
issuer="urn:mrn:iho:org:00AA:1810">MIIIE6TCCBI8CFAWfuTD5n5eDTcGvmlirrhKZNq3iMAsGCWGSFA1AwQDAjCBggJELMAkGA1UEBhMCTUMxHT
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cODEKxS50Vv5GEX79s470Xgoi1MIp7wOgW3sEuk8EwZrnQ36ekmJDKpE237U0jYBje1LuvdIvN86nnAKFJ7PhIEUvHsXZHuWetJziPok5BXLH3G0mG4uk
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```

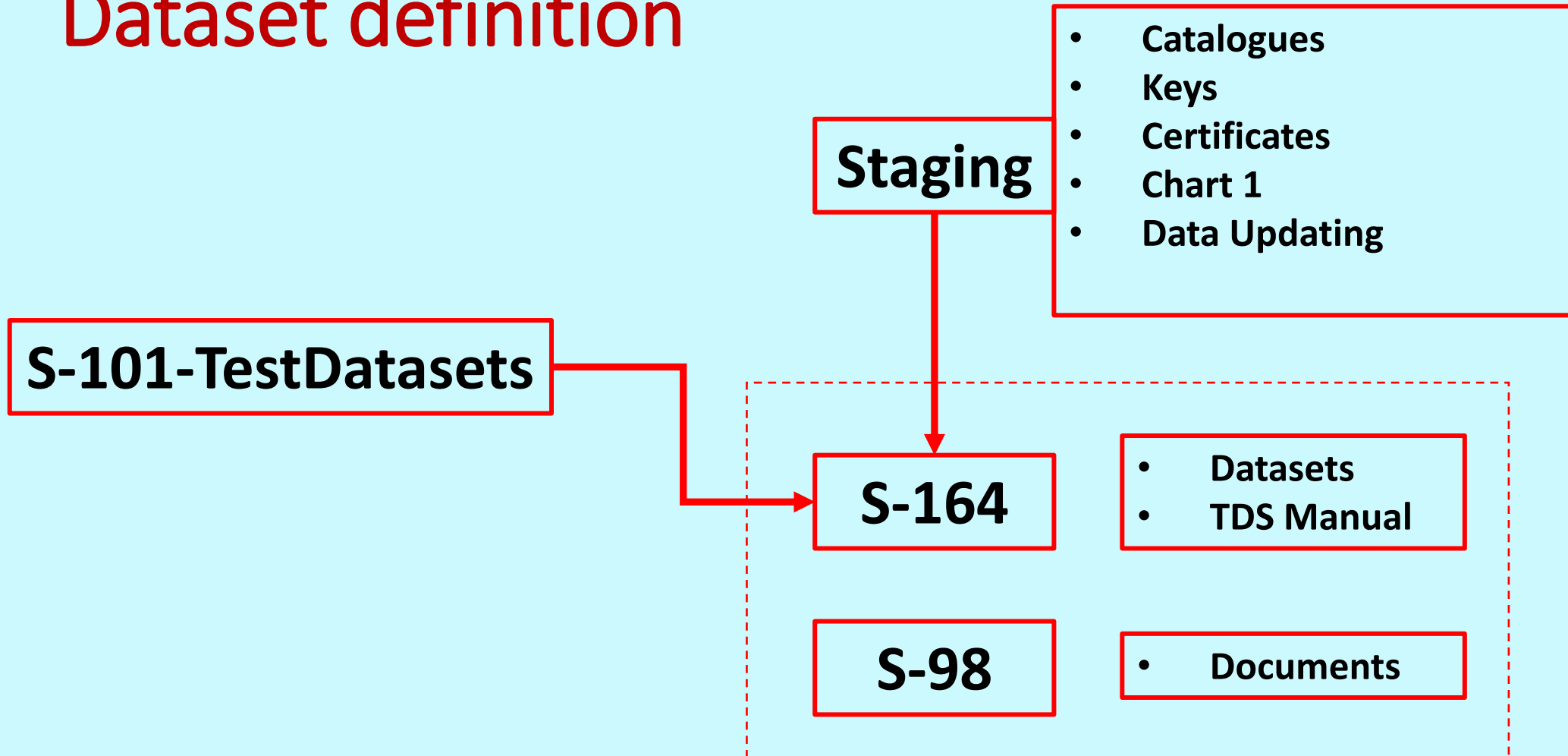
S-164 / S-98 Update

- Datasets in GitHub repository
 - Numerous issues around CATALOG.XML, Signing and certificates. Now resolved (I think...) More in-depth testing taking place.
 - Producer codes have changed (00AA instead of AA00). New certificates, keys etc. been produced for use across the board
- Work in progress on first set of encryption and authentication tests.
 - Uses Part 15 parameters from S-100 Part 15.
 - This will be a first edition, to be released in December.
- Issues between S-101 Portrayal and S-101 Test Datasets seem to be more aligned now.
 - New S-101 Test Datasets? Updates will be required as we work through the tests.
- S-98 Annex C
 - Issues are up to date with meeting updates and in line with those raised in S-164. May need further work though. Some still to be agreed but drafting can begin of updated document post S-100WG
 - Idea is to have an up to date set of issues to work from when updating the document.
 - Cutoff for S-98 Annex C?

Timescales (from S-101PT update)

- Edition 2.0.0 (S-101) approved by correspondence, Summer 2024
 - S-101 ENC PS/DCEG 1.2 reviewed by 27th October
 - 1.2 to S-100WG Nov 2023
 - PC, Validation and **TDS** by end Dec 2023
 - v2.0 defined at S101PT Feb 2024, prepared Mar-Apr
 - **Test datasets and Documents need to be ready Apr?**
 - **S100TSM March 12-15 2024 (Review and clear up outstanding issues. Present current version)**
 - **Group needs to be reviewing new S-98 Annex C and TDS manual by early January**
 - HSSC 27th May 2024 – **Approval of S-164 and S-98 (what version of S-101?)**
 - June 2024 PT (Sweden). Jun-July 2024 final content and DQWG review - HSSC Letter August 2024
- There are issues updating test datasets automatically.

Dataset definition



Release Plan...

- V1 (S-101PT)
 - Initial Catalogues
 - Std Layers
 - Simple Dual Fuel x1
 - NavHaz x1
 - Polar Data
- v2 (end October)
 - v1.1.0 fixes
 - **Initial version of encryption and authentication (Section 2) [M9 – move to Dec]**
- v3 (end November)
 - **“Chart Display” (Section 3) initial version, manual + data feedback**
 - **Further requirements for data content drafted**
 - Feedback on encryption and authentication [M9 – move to Dec]
 - Initial data updates – NavHaz.
 - Data Quality Requirements [M9?]
- v4 (end December)
 - Navigation Hazards (S-100) [M9 – move to Oct, Nov]
 - Data updates – NavHaz and Chart Display
 - Rest of Dual Fuel
- v5 (end January)
 - Document reviews (TDS manual and S-98)
 - Data and Catalogue Updates (to v1.2 if available)
 - Chart 1 and remaining exchange sets [M9 Move to Dec]
 - Final versions of encryption and authentication
- v6 Feb 2024 – ready for S-101PT, gaps identified.

Superceded

AdditionalCell

Chart1

CorruptData

CorruptInteroperabilityCatalogue

CorruptPortrayalCatalogue

CorruptUpdates

DisplayBase

DisplayOther

DisplayPriorities

DisplayStandards

DisplayUnclassified

DualFuelInitial

DualFuelNavigationalHazards

DualFuelNavigationalHazardsOverview

DualFuelPreference

DualFuelSafetyContour

DualFuelSimple

DualFuelSimpleUpdate

DualFuelSpecialConditions

DualFuelUpdate

GeodesicPlotting

SequentialUpdate1-5

GoodBaseCells

InitialCatalogues

InvalidFeatures

InvalidSequence[1-5]

LanguagePacks

NavigationalHazards

NavigationalHazardsOverview

NewProduct

NewUpdate

OldUpdate

Overlap

PolarData

PowerUp

PowerUpCatalogueUpdates

PowerUpCatalogues

Reissue001

Reissue004

ReissueX01SW

SafetyContour

ScaleMinimum

SequentialUpdate

Settings

SpecialConditions

UpdatedCatalogueData

UpdatedInteroperabilityCatalogue

WLAInvalid

SequentialUpdate1-5

(Current) Release Plan...

- Exchange sets in bold are complete (for now)
- Require data edits in line with aspects of tests and S-101.
- Require supplementing with other Phase 1 products
- S-102 / S-104 is in progress
- S-128 being tested, candidate datasets identified

AdditionalCell

Chart1

CorruptData

CorruptInteroperabilityCatalogue

CorruptPortrayalCatalogue

CorruptUpdates

DisplayBase

DisplayOther

DisplayPriorities1

DisplayStandard

DisplayUnclassified

DualFuelInitial

DualFuelNavigationalHazards

DualFuelNavigationalHazardsOverview

DualFuelPreference

DualFuelSafetyContour

DualFuelSimple

DualFuelSimpleUpdate

DualFuelSpecialConditions

DualFuelUpdate

GeodesicPlotting

SequentialUpdate1-5

GoodBaseCells

InitialCatalogues

InvalidFeatures

InvalidSequence[1-5]

LanguagePacks

NavigationalHazards

NavigationalHazardsOverview

NewProduct

NewUpdate

OldUpdate

Overlap

PolarData

PowerUp

PowerUpCatalogueUpdates

PowerUpCatalogues

Reissue001

Reissue004

ReissueX01SW

SafetyContour

ScaleMinimum

SequentialUpdate

Settings

SpecialConditions

UpdatedCatalogueData

UpdatedInteroperabilityCatalogue

WLAInvalid

SequentialUpdate1-5

Current dataset/exchange set plan

- V1 (S-101PT)
 - Initial Catalogues
 - Std Layers
 - Simple Dual Fuel x1
 - NavHaz x1
 - Polar Data
- v2 (end October)
 - v1.1.0 fixes
- v3 (end November)
 - **“Chart Display” (Section 3) initial version, manual + data feedback**
 - **Further requirements for data content drafted**
 - Navigation Hazards (S-100) [M9 – move to Oct/Nov]
 - **Data Quality Requirements [M9]**
- v4 (end December)
 - Data updates – NavHaz and Chart Display
 - Rest of Dual Fuel
 - **Initial version of encryption and authentication (Section 2) [M9 – move to Dec]**
 - Feedback on encryption and authentication [M9 – move to Dec]
 - *(Initial)* Chart 1 and remaining exchange sets [M9 Move to Dec]
 - Initial data updates – NavHaz.
- v5 (end January)
 - Document reviews (TDS manual and S-98)
 - Data and Catalogue Updates (to v1.2 if available)
 - Finalise Chart 1
 - Final versions of encryption and authentication
- v6 Feb 2024 – ready for S-101PT, gaps identified.

Other relevant proposals – S100WG8

- Proposal for complex formatting of pick report information – paper for S100WG submitted.
- interoperabilityIdentifier – paper submitted to S100WG
- Simplification of GML coverage objects in CATALOG.XML – paper submitted to S100WG

C-15.5 Schedules, contact information, and vessel characteristics

[Templates to be developed.]

Hitlist of Top Issues...

- Data Quality Portrayal
- “Loading Strategy”
- Versioning
- + Some Others (later)



Use of Data Quality for Indication and Danger highlights

When a route is planned and the Mariner has chosen to take accuracy into account the ECDIS must use the underlying M_QUAL, CATZOC attribute to determine the distance from the route, the indication highlight must be used to highlight the relevant features.

e.g In a M_QUAL area with attribute CATZOC B area all features that would generate an indication 50m from the route must be highlighted.

M_QUAL – CATZOC Value	Positional Accuracy	Depth Accuracy
A1	+/- 5m + 5% depth	0.5m +1% depth
A2	+/- 20m	1m + 2% depth
B	+/- 50m	1m + 2% depth
C	+/- 500m	2m + 5% depth
D	+/- 500m	2m + 5% depth*
U	NA	NA**

*Where the M_QUAL area is equal to CATZOC value D, a warning must be displayed on the ECDIS advising 'accuracy of the data is of a poor quality'.

**Where the M_QUAL area is equal to CATZOC value U, a warning must be displayed on the ECDIS advising 'accuracy of the data is unassessed'

Proposed text of S-52 update

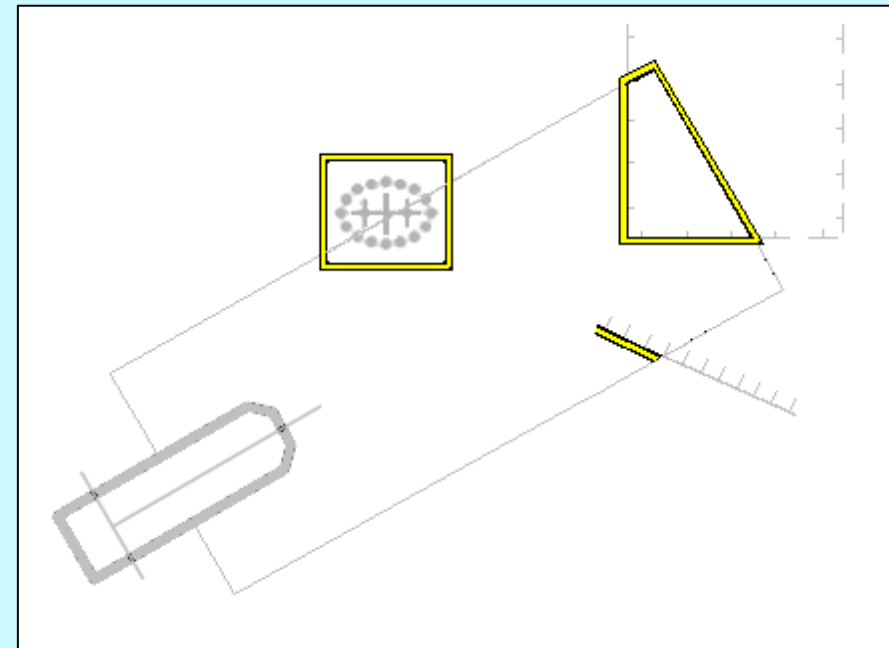
10.5.13 Indications related to ENC accuracy

The IMO Performance Standard for ECDIS MSC.530(106), clause 11.3.6 Route Planning states;

11.3.6 It should be possible for the mariner to select that the indications of 11.3.4 and 11.3.5 take into account accuracy information of relevant hydrographic information, as defined by IHO standards.

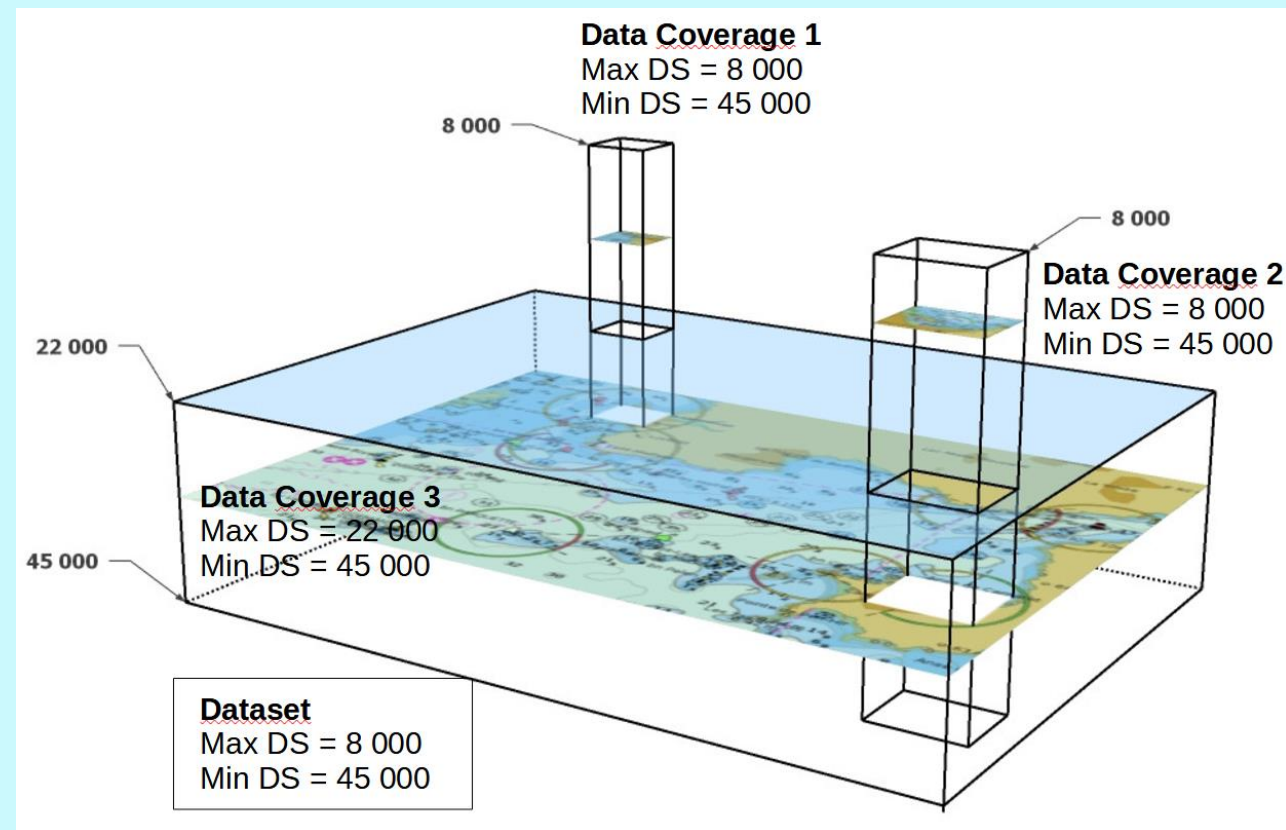
Clause 11.4.9 Route Monitoring states;

11.4.9 It should be possible for the mariner to select that the indications of 11.4.3, 11.4.4, 11.4.6, 11.4.7 and 11.4.8 take into account accuracy information of relevant hydrographic information, as defined by IHO standards.



“Dataset Loading”

- Can affect scale assignment in test dataset, requiring edits
- Behaviour needs to be in the testbeds before it can be incorporated into S-164 tests.
- Product specific behaviour (S-101 only)
- Dual Fuel aspects are not documented fully



Versioning

- Issue is not just data but testbeds and data tooling as well.
- Creation, modification, update and validation

Dataset	FC	PC	
2.0.0	2.0.2	2.0.3	?
2.1.0	2.1.0	2.1.2	
2.2.0	2.2.0	2.2.1	

- Includes
 - How datasets are versioned
 - How those versions map to compatible feature, portrayal and interoperability catalogues
 - Whether other versions of catalogues are also compatible if they are installed on the test system
 - Therefore, it is dependent on the criteria used for creation of new versions of catalogues (in line with new editions of product specifications)
- Some adaptation/documentation of what we have is likely.

Other developments with significant impact

1. A definitive list of data formats to be supported by S-100 ECDIS
2. Complex portrayal of pick reports (dependent on input papers from NIPWG)
3. S-128 development and baselining (noting the recent publication of edition 1.1 for testing).
4. S-102, S-104 test datasets (in progress)
5. Multiple Language representation (noting developments at last S-101PT).
6. UpdateInformation (testing in progress)
7. Chart 1 development and technical solution.
8. S-124 changes

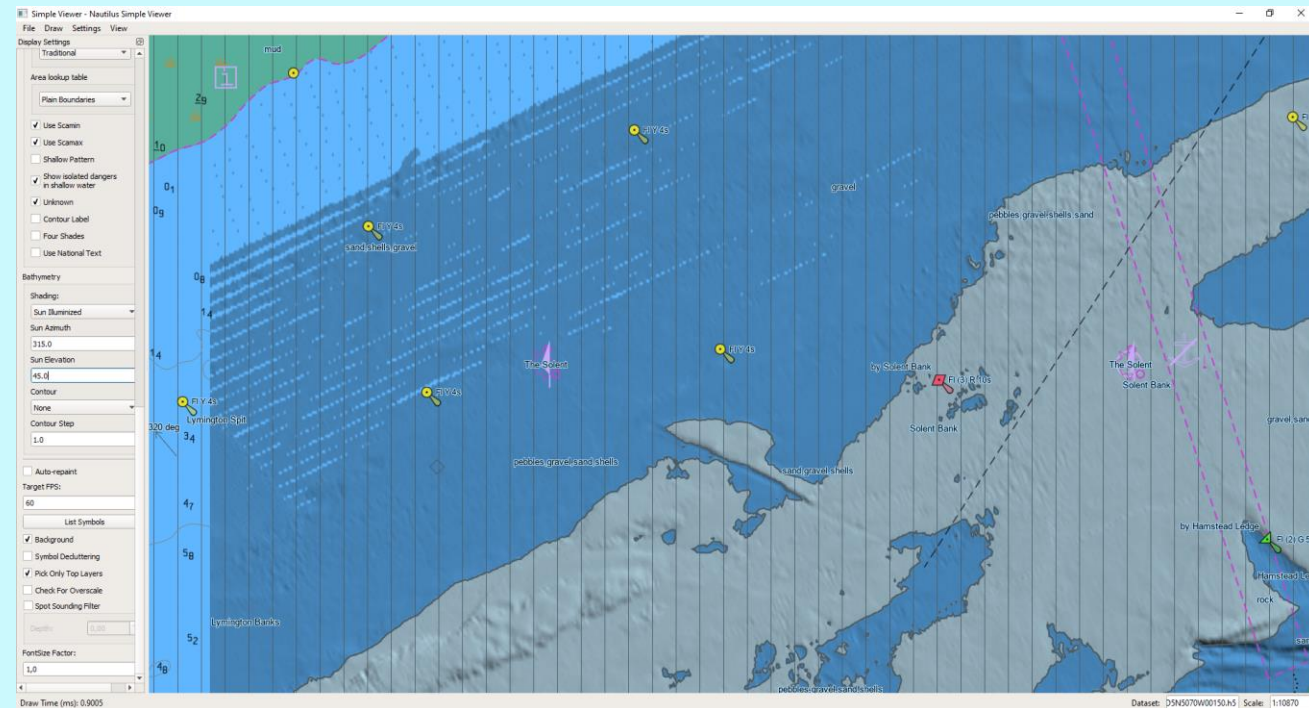
ENCWG VTC proposal

- Final Version of manual to use revised form for all tests.
- New version of form which “S-100-ises” the revised S-64 form to be developed.

Test Reference		IHO Reference	
Test Description			
Loaded Data			
Path		Dataset	
Display Category		Independent Mariner's Selections	
Standard		Accuracy	<input type="checkbox"/>
Contour Values		Highlight date dependent	<input type="checkbox"/>
Safety Contour		Highlight info	<input type="checkbox"/>
Safety Depth		Highlight document	<input type="checkbox"/>
Deep Contour		Show full light lines	<input type="checkbox"/>
Shallow Contour		SCAMIN off	<input type="checkbox"/>
Palette		Shallow pattern	<input type="checkbox"/>
Day		Shallow water dangers	<input type="checkbox"/>
Point Lookup Table		Unknown objects	<input type="checkbox"/>
Paper Chart Symbols		Update review	<input type="checkbox"/>
Area Lookup Table		Contour label	<input type="checkbox"/>
Symbolized Boundaries		Four shades	<input type="checkbox"/>
Date Dependent Objects		National language	<input type="checkbox"/>
Mode	Off		
Start Date	30 July 2021		
End Date	30 July 2021		
Display		Text Groups	
Centre		Important text	<input type="checkbox"/>
Scale		Names	<input type="checkbox"/>
Orientation		Light description	<input type="checkbox"/>
		All other text	<input type="checkbox"/>
Notes			
Viewing Group Layers			
Standard Display		Other	
Drying lines	<input type="checkbox"/>	Spot soundings	<input type="checkbox"/>
Buoys, beacons, structures	<input type="checkbox"/>	Submarine cables and pipelines	<input type="checkbox"/>
Lights	<input type="checkbox"/>	All isolated dangers	<input type="checkbox"/>
Boundaries and limits	<input type="checkbox"/>	Magnetic variation	<input type="checkbox"/>
Prohibited and restricted areas	<input type="checkbox"/>	Depth contours	<input type="checkbox"/>
Chart scale boundaries	<input type="checkbox"/>	Seabed	<input type="checkbox"/>
Cautionary notes	<input type="checkbox"/>	Tidal	<input type="checkbox"/>
Ships' routing systems and ferry routes	<input type="checkbox"/>	Miscellaneous	<input type="checkbox"/>
Archipelagic sea lanes	<input type="checkbox"/>		
Miscellaneous	<input type="checkbox"/>		
Results			
Plot			

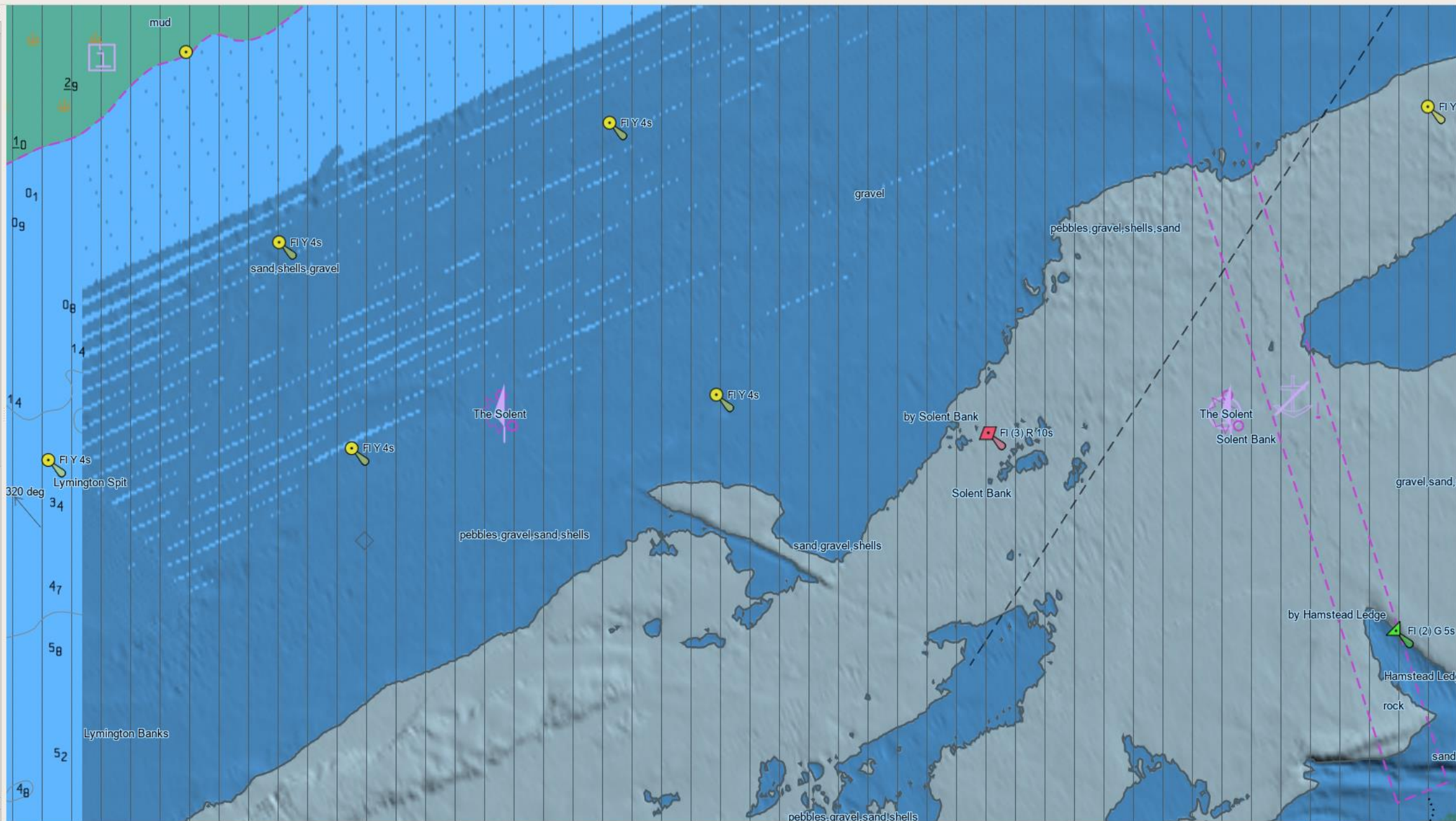
WLA implementation

- Discussion on WLA implementation outputs:
 - Strong need for validation between S-102, S-104 and S-101 to ensure WLA can be implemented.
 - Validation required for
 - Consistent Vertical (Sounding Datums)
 - “Holes in data”
 - Non coincidental coverage of 102 and 104
 - Use of grids other than regular grids
- Proposals to be made to S-102 and S-104 groups for clarifying words on “Datasets intended for use on ECDIS”
- ECDIS OEM will not transform data, nor compute compatibility.



- Use Scamin
- Use Scamax
- Shallow Pattern
- Show isolated dangers in shallow water
- Unknown
- Contour Label
- Four Shades
- Use National Text

- Background
- Symbol Decluttring
- Pick Only Top Layers
- Check For Overscale
- Spot Sounding Filter



Manual Update / Manual Editing

- Requirements for Manual Corrections are currently defined in S-52 and S-98 Annex C (C-12.6.4, C-12.6.5). This applies to ENC S-57/S-101 (C-12.6.4) and other products like S-102, S-104 (C-12.6.5). Includes the requirement that “Manual updates of ENC information should be displayed using the same symbology as ENC information”.
- Requires the ECDIS to act as a data editing tool for ENC (and other products)

Proposal accepted by S-164 sub WG

- Proposal (7Cs) is to restrict manual updates/editing to a particular set of symbols for use on ECDIS. Current rules would be too open to interpretation and no symbol set is currently defined.
- Proposed use of Symbol set which is based on symbols defined for annotating NW information (most common manual updating/editing use case)
- Point/Curve/Surface symbology
- If this is acceptable then a full description can be created based on portrayal catalogue terminology

Point Symbols

- Depth



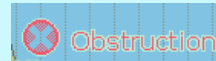
- Underwater



- Wreck



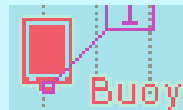
- Obstruction



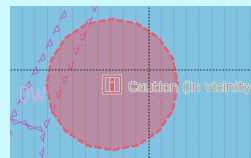
- Beacon



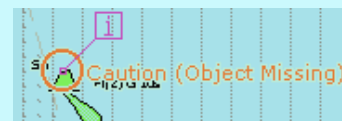
- Buoy



- Caution (Vicinity)

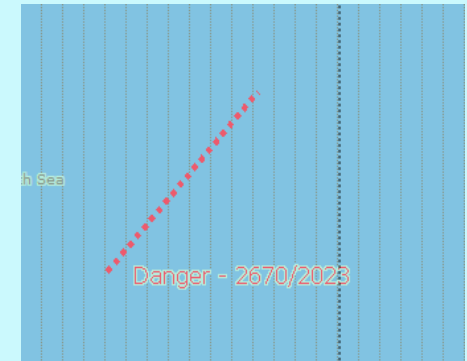


- Caution (Object Missing)



Curve Symbols

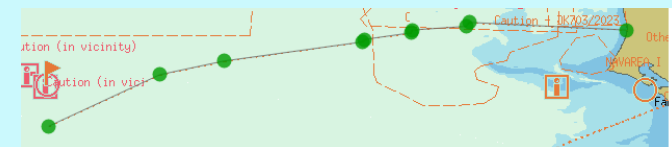
- Danger



- Cable

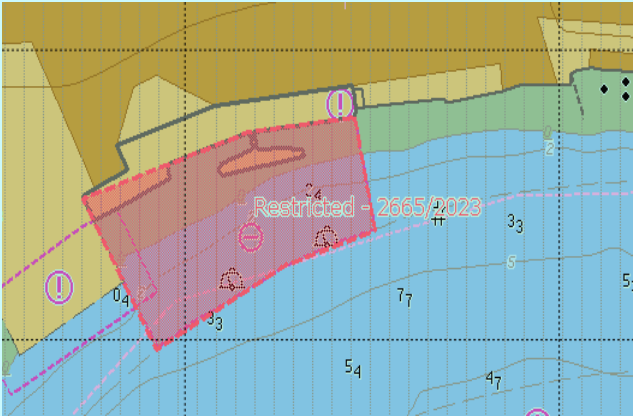


- Other

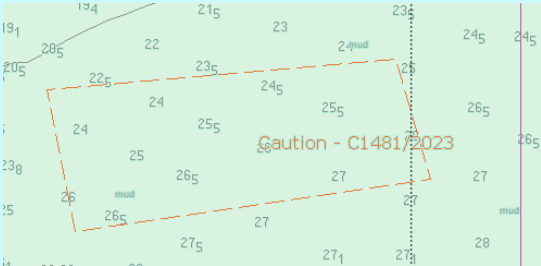


Surface Symbols

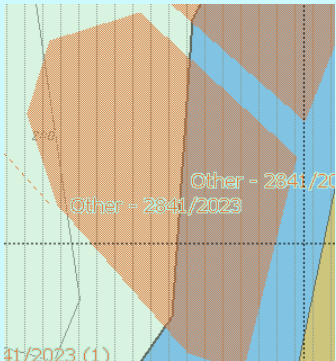
- Restricted



- Caution



- Other











Manual Update / Manual Editing

- Requirements for Manual Corrections are currently defined in S-52 and S-98 Annex C (C-12.6.4, C-12.6.5). This applies to ENC S-57/S-101 (C-12.6.4) and other products like S-102, S-104 (C-12.6.5). Includes the requirement that “Manual updates of ENC information should be displayed using the same symbology as ENC information”.

Progress:

- 7Cs/IIC will put together FC/PC and Schema for this portrayal
- Proposal is for:
 - Description in S-98 of detailed functionality required. The user must be able to select from the described symbols, together with accompanying text/notes and text to be displayed.
 - S-164 would contain a test to check user is capable of creating a manual update/edit using the symbols / types defined in S-98.
 - Symbols could be described just in S-98, or developed in portrayal catalogue

Point Symbols

- Depth 
- Underwater 
- Wreck 
- Obstruction 
- Beacon 
- Buoy 
- Caution (Vicinity) 
- Caution (Object Missing) 

Conclusions

- S-164 and S-98 Annex C reflect the conclusions of a large number of working groups, project teams and discussions between them. In order to incorporate updates and operational versions of these standards in datasets and exchange sets a complex set of dependencies has emerged. These are in progress and the significant ones have been raised in this summary of progress.

Recommendations

- It is recommended that S-100WG approve continuation of effort in the development of S-164 and S-98 Annex C and the path to completion of new drafts and test datasets/exchange sets for HSSC. **It is also recommended that S-100WG acknowledges the likely long-term requirement for the sub working group's existence for ongoing maintenance of S-164 / S-98 Annex C to support S-100 ECDIS implementation. Longer term strategies should be considered early to make best use of resources.**

Action Required of S-100WG - S-100WG is asked to:

1. Consider the background and content raised in this paper and contribute to any resolution of the highlighted issues where appropriate.
2. Approve the extension of S-98 Annex C to include portrayal specifications for Manual Editing/Updating
3. Endorse the plan for publication of revised versions of S-164 and S-98 Annex C for HSSC Approval in 2024