



15th Meeting of the Hydrographic Services and Standards Committee, HSSC13

Management of the S-100 Validation Process

Agenda Item HSSC15_PS2

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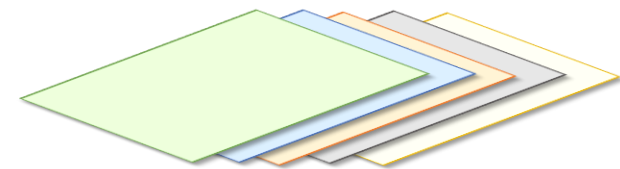
New ECDIS Performance Standard

- adopted by MSC in November 2022
- after **1 January 2029** new ECDIS **must** conform
- after 1 January 2026 new ECDIS may already conform
- relevant S-100 Product Specifications must reach operational level as quickly as possible



S-100 ECDIS basic product layers

- S-98 defines products that must be supported by ECDIS:
 - S-101 ENC
 - S-102 Bathymetric Surface
 - S-104 Water Level Information for Surface Navigation
 - S-111 Surface Currents
 - S-124 Navigational Warnings
 - S-129 Under Keel Clearance
 - S-421 Route Plan



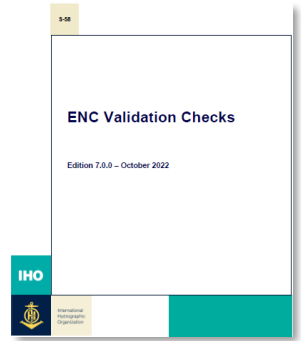
S-100 validation

- data consistency is crucial when used for safe navigation
- efficient quality assurance processes are essential
- development of S-100 validation rules is in progress
- new challenges due to:
 - growth in the absolute number of datasets,
 - additional encoding formats (HDF-5, GML),
 - new types of data representation (gridded, point sets, tins),
 - cross-product validation* and strong demand for S-100 data consistency (interoperability in ECDIS).



**similar function: S-57 Horizontal and Vertical Consistency Checks (HVC)*

Traditional S-58 validation of S-57 data



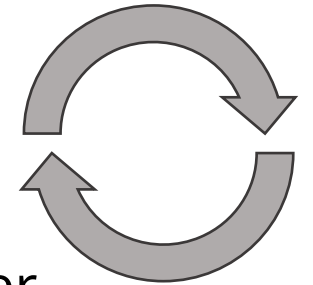
- pre-validation in production environment
- product validation with independent validation software
- S-58 validation checks on individual datasets
- horizontal & vertical consistency checks underutilized
- single-user desktop applications in most instances
- no interaction with production software
- a lot of manual user interaction
- co-working and data organization difficult

Impact of new validation challenges

- a growing number of datasets must be managed
- validation process becomes more time-consuming
 - load data for validation
 - review and assess validation results
- manual moving of files between folders is error-prone
- difficult to keep track of validation status (*passed, failed*)
- selection of relevant data for cross-validation
- new data formats require new kinds of validation checks

New demands for validation software

- user interaction
 - human interaction will always be required, throughout validation phase
 - relieving users of manual work, as much as possible
 - automation of S-100 product validation
 - pre-assessment of automation potential for limiting user interaction to the minimum



New demands for validation software

- proper workflow management will be essential
 - keeping track of necessary validation tasks
 - scope for multi-user support and co-working
 - automated selection of data for cross-product validation
 - scheduling of validation jobs
 - inclusion of automated validation processes
 - interaction with third-party services



Summary

- With S-100 the demands of data validation will become more challenging and complex
- To cope with new demands, it will be essential to make a transition from single-user desktop solution to a comprehensive system of workflow management
- Introduce automation of validation processes to the maximum possible degree



Thank You

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