

Dual –fuel ECDIS

Definition Of Capabilities



Timeline

Now

- IHO S-57/S-52

Transition

- S-57 and S-101 cells available
- S-101 and S-57 capable ECDIS

S-101 Only

- End of Transition Period
- No Requirement for S-57 support
- OEMs or data producers

2000-2020

2020

S-57

S-101

"202x"

Preparation

- Standards
- Regulatory
- COTS products and Services
- ECDIS Development

Rollout

- Producers begin rollout of co-produced S-101 and S-57
- S-57 only ECDIS continues
- New ECDIS can support S-57 and S-101

20. In order to maintain ECDIS devices already installed on SOLAS vessels which are technically not ready nor required to be upgraded to S-101 ENC compatibility, and to comply with the applicable IMO regulations pertaining to existing navigation equipment, identical coverage will be provided for S-57 ENCs and S-101 ENCs for a transition period until there is no significant number of legacy systems in the field and all ECDIS in operation have become S-101 compatible. This situation is expected near the end of the decade, but will be continuously monitored to enable a decision to be made by the responsible IMO body.

21. As a consequence, new ECDIS systems to be brought into the market at the time when S-101 ENC coverage starts (2024) will have to be capable to process both transfer standard formats: S-57 ENCs and S-101 ENCs.

22. Safety of navigation will be maintained by cartographic content of both S-57 and S-101 standards. From the user's perspective, presentation of cartographic and functional features to meet the IMO mandated content in a mixed environment of S-57 ENCs and S-101 ENCs in one ECDIS device will be seamless and presented under the identical presentation regime for charted features and navigational objects.

S-100WG discussion summary

- S-100WG has discussed the concept of dual-fuel ECDIS (DF-ECDIS)
- Papers at S-100WG5 proposed “...its operation, data handling and user experience can be made consistent and logical in accordance with the current, relevant standards”
- The task at hand is to define “identical presentation regime” and “seamless operation” in concrete terms

Essential Principles of Operation

- It should allow unambiguous and standardised import and use of both S-57 and S-101 data. In addition, a selection of S-100 compliant data products should be able to be imported and used to enhance user functionality and safety.
- ECDIS behaviour should not be any less “safe” (as defined by the IMO PS) regardless of whether S-57 or S-101 data is in use and taking into account any ENC scheming differences and/or overlaps. The requirements of the IMO PS should be met in all eventualities.
- User Experience should never be negatively impacted by the introduction of any S-100 compliant data to the ECDIS.

“DF-ECDIS functionality should be split between legacy S-57 data and operations involving S-101. This will “partition” the ECDIS operation wholly between the two fundamental ENC products acceptable under the IMO regime during the transition period”

Summary

- Initial workshops have not identified any major issues with the rollout plan. There will certainly be challenges though.
- It is clear that defining the operation of Dual-Fuel ECDIS will require considerable effort from stakeholders across the ECDIS ecosystem and coordination between standards, regulatory and production efforts.
- S-100WG and ENCWG has commenced these activities and efforts in industry are also under way.
- Efforts will focus on
 - Better definition of “identical presentation regime” - Portrayal Sub-WG
 - “Seamless Operation” of DF-ECDIS (S-100WG and others)
 - ENC Data Production - ENC “Conversion” sub-WG (and others)

HSSC is asked to

- Note the contents of this paper as a summary of the current situation in regard to Dual-Fuel ECDIS (DF-ECDIS) during the transition period.
- Note the importance of close interworking between the data producer community, industry bodies supporting data production and the broader IEC/IMO community in defining this important transition phase at a working level.
- Agree to the principles of a DF-ECDIS as outlined in the paper
- Consider drafting a governance document that formalizes the guiding principles of DF-ECDIS or incorporate them into the S100 Strategic Implementation Plan.



Questions?