e-NAV9 Input paper

Agenda item 10.3

Task Number

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The Committee is invited to note this information from the General Lighthouse Authorities, which is an update of that provided in e-NAV 8/10/2.

Maritime VHF efficiency study

# Introduction

This input summarises the outcome of a study carried out for the General Lighthouse Authorities of the UK and Ireland (GLA), by consultant Snaefell Communications, entitled Options for Improving Efficiency of Spectrum Use in the VHF Maritime Mobile Band.

# Contents of Study

The study looked at the following aspects of VHF Maritime Mobile operations:

1. Current spectrum usage, systems and procedures;
2. The future operational context for Maritime VHF;
3. Candidate technologies for improving spectral and operational efficiency:
   1. for voice and data communication
   2. for “wideband” data communication
4. Advantages and disadvantages of each candidate with regards to efficiency improvements, and other factors which may influence adoption.
5. Spectrum definition and current use of the International Maritime Mobile Band was assessed, identifying regional variations in VHF Band usage, particularly in the UK, USA, Canada, France, on inland waterways in Europe and the use of private channels in Europe.
6. 6The drivers for change and recent developments were reviewed.
7. Techniques currently in use, or proposed, to achieve efficiencies were identified, such as single frequency operation of duplex channels, narrowband FM operation and digital modulation, including DSC and AIS.
8. Land mobile radio technologies were also considered, in terms of spectral efficiency and radio design criteria, resistance to fading and other propagation effects.
9. Co-existence with VHF FM Channels was taken into account.

# Technical Notes

In addition the study provided Technical Notes, for reference purposes on the following aspects:

* RF System Design Issues
* Digital Modulation Schemes
* Narrowband FM
* VHF Propagation, Interference and Link Budgets

Note: the full report of this study and the technical notes are available on www.gla-rrnav.org