 Input paper: [[1]](#footnote-1) ENAV17-11.21

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG **□** PAP **□** Input

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Technical Domain / Task Number 2 TD 2 - e-Navigation communications

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VDES Waveform Technical Requirements Study

# Summary

The VHF Data Exchange System (VDES) is one of the key elements of the International Maritime Organisation (IMO) concept of e-navigation. Work is currently being undertaken within IALA and the International Telecommunication Union (ITU) to develop an international standard for VDES and secure access to radio spectrum.

The General Lighthouse Authorities of the United Kingdom and Ireland (GLA) have commenced work with the Institute for Telecommunications Research (ITR) at the University of South Australia (UniSA) to analyse the technical requirements for Application-Specific Message (ASM) and terrestrial VHF Data Exchange (VDE-TER) waveform and access scheme candidates as part of the second phase of a VDES Waveform Study.

Phase 1 of the study has been completed and the final report was presented at the IALA ENAV Committee Telecommunications Working Group meeting (ENAV 16) in April 2015 [1].

The current work considers technical requirements for ASM and VDE-TER waveforms based on the set of VDES user requirements that have been identified to date. The existing base of user requirements will be mapped onto the waveform descriptions from the current draft VDES recommendation. Results from a recent maritime VDES channel sounding study will also be used to derive a terrestrial maritime channel model. The model will then be used to analyse waveform operating requirements and expected performance.

The output of this work will be used to prepare input papers to the appropriate meetings of IALA and ITU-R, in order to progress the realisation of VDES.

## Purpose of the document

The Committee is requested to:

Note the contents of the Phase 1 report and provide any comments on the approach for the remaining phases of the work.

Those interested in participating, or supporting this work, are requested to contact the authors.

## Related documents

* *VDES Waveform Scoping Study* [1]:This report presents the results of the VDES Waveform Scoping Study. It provides a comprehensive literature review and work plan proposal for the VDES Waveform Study.
* *VHF Data Exchange System Channel Sounding Campaign* [2]:This ITU-R report presents the results of a VDES channel sounding campaign, supported by the administrations of the United Kingdom and Australia.

# References

[1] J. Safar, D. Haley, L. Davis, A. Grant, and N. Ward, “VDES Waveform Scoping Study,” IALA ENAV Committee WG 3, ENAV 16, St Germain, France, Input Document ENAV16-11.25.2, Apr. 2015.

[2] ITU, “VHF Data Exchange System Channel Sounding Campaign,” Geneva, Switzerland, Report ITU-R M.2317-0, Nov. 2014.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)