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| From: VTS31/WG2 | VTS32/8/5  Formerly VTS31/WG2/WP1 |
| To: VTS WG1 & VTS WG4 | 16 September 2010 |

Liaison Note

Task 17: Specify VTS and other VTM related user needs in relation to the allocation of the radio frequency spectrum, for further delivery to the IMO and ITU

# Introduction

During VTS31, the Technical Working Group WG2 commenced work on Task 17 regarding the VTS/VTM radio frequency spectrum user needs.

WG2 has produced some draft technical content related to this topic at Annex, that requires further development from WG1 to update the user needs section of the paper.

# Action requested

Working Group 1 is requested to continue the development of this document.

16-Sep-2010

VTS / VTM related user needs in relation to the allocation of the radio frequency spectrum, for further delivery to the IMO and ITU

# Introduction

General

Relations to Spectrum Pricing are in some countries calling for more efficient use of spectra, possibly supplemented by lower power levels.

Are existing allocations sufficient for VTM and e-NAV?

Remember, it is safety related.

# User requirements

User requirements for the following use is to be developed

## Voice communication

(Mobile) Telephone

HF

VHF

UHF

Satellite

Comments:

AIS tend to reduce congestion in maritime VHF band. Furthermore reduced channel spacing and conversion from analog to digital techniques is likely to improve further. This may free capacity for future VTM and e-Nav use.

## Data communication

(Mobile) Telephone

AIS

Satellite AIS

MF, HF, VHF and UHF data links

Microwave links

Satellite links

WiFi / WiMax

## GNSS

GPS

Glonass

Galileo

Etc.

## Radar

Comments:

S-band, could be limited to specified areas of the world with heavy precipitation.

X-band, New technology radars could require expansion of the spectrum i general use.

Today’s radars does mainly operate in the 9.225 – 9.5 GHz region. Increased use of the full band allocated 8.8 – 9.5 GHz (excluding some sub-bands reserved for Air traffic and Meteorological use) may be required in order to avoid congestion and interference.

Ka – Ku bands are in limited use for VTS as it is now but, the bands are becoming increasingly used for intruder protection systems (ISPS code relevant)

Short range millimetre radar is used for berthing systems etc.