Liaison Note

Changes to Radar frequencies

# Introduction

The e-NAV committee welcomes the opportunity to comment on ITU Working Party 5B proposed changes to the operating frequencies for X band radar (e-NAV11-10-5).

Within this document it is proposed to amend the operational band for marine radionavigation from 9 300-9 500 MHz to 9 200-9 500 MHz. These proposed revisions were undertaken at the 8th meeting of Working Party 5B, and were retained for final consideration at the next meeting of Working Party 5B (tentatively scheduled for May-June 2012). It was noted that comments received would be considered at the next meeting of Working Party 5B.

# Implications of change

Providing a racon with a wider receiver input bandwidth is a relatively straight forward task of radio engineering. There is some trade-off between receiver input bandwidth and receiver input sensitivity, yielding a small reduction of sensitivity and loss of range. There may also be an increase in power consumption. The transmitter bandwidth will also need to be changed.

On a per unit basis, changes to support a wider band may be inexpensive. However, engineering charges for changing the radio circuits may be substantial. Some racon manufacturers may simply not do it.

The consequences of this change to a system including either existing or modified racons are small in the case of magnetron based radars. The consequences to NT radar need to be considered more carefully, noting that NT radar studies to date have not resolved the reduced range performance with the existing recommendations.

ITU-R M.824 is a recommendation that is often adopted as a national specification. If this was to happen, the change in frequency could make racons (that fully meet the spec) difficult or impossible to purchase.

IMO carriage requirement for x-band radar is for 9300 – 9500 and it is not known whether this will change or not. Either way, IALA can retain an independent view through R-101, but this traditionally changes in line with M.824.

# Action

All Racon service providers are encouraged to consider the impact this could have to their service provision.