

To: IALA e-NAV Committee

Reference: 2011-010695
Please refer to the above

Thursday, 10 March 2011
Case handler: Jens K. Jensen, IA

Proposal regarding Enhanced RACON and Enhanced RADAR positioning

Ref.: http://en.wikipedia.org/wiki/Enhanced_RACON
http://en.wikipedia.org/wiki/Enhanced_RADAR_positioning

Background

In connection with the proposals for a RACON strategy (e-Nav8-8-5) and a Maritime Integrated PNT System (e-Nav9-8-5) currently under consideration in the IALA e-Navigation committee, and in light of the considerations on GNSS vulnerability, the Danish Maritime Safety Administration (DaMSA) have been discussing the potential for developing a purely RADAR based positioning system – Enhanced Radar Positioning – as a backup for GNSS positioning.

The navigation radar of a ship is currently considered a primary position verification device by navigators, as the radar can be used to identify conspicuous objects or coast lines, giving range/bearing to objects of a known charted position – however this is primarily a manual process, although some manufacturers have been working on automatic coastline detection. Automating and enhancing this process by introducing automatic detection of conspicuous objects with a known reliable position, enables a trustworthy terrestrial positioning system, independent of GNSS vulnerabilities.

Proposal

DaMSA would like to propose that the Working group 2 (PNT / Sensors) of the committee consider the proposals attached for the development of Enhanced RACON in relation to the developments within RACON in light of introduction of NT Radar – as well as the proposal for the development of Enhanced Radar Positioning as an independent source of position fixing in relation to a Maritime Integrated PNT system.

DaMSA will during and shortly after e-NAV9 be meeting with interested industrial partners within RACON and RADAR, with the aim to evaluate the feasibility of a test bed demonstration of these developments, as well as attempting to estimate the achievable positional accuracy of such a positioning system.

Best regards

Jens K. Jensen
Innovation Engineer
Dept. of Innovation and Projects
Danish Maritime Safety Administration