VTS 37/e-NAV 14 Input

Agenda item 16.6

Task Number

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Proposal for New Work Program (2014-2018)

Development of Recommendation and Guideline  
on AIS service as a sub-basic VTS [or similar to a basic VTS]

# Summary

One of main functions of AIS is as a VTS tool for assisting in operation of VTS. Today, many VTS centers use AIS and AIS brings many benefits to VTS centers to develop the traffic image. Most of such VTS centers use AIS as supplemental tool for VTS service since it may be difficult to generate a comprehensive overview of the traffic in its service area by only AIS.

The Japan Coast Guard (JCG) operates the nation-wide shore based AIS network and monitors traffic of AIS carried ships navigating in the adjacent waters of Japan. Some regional Coast Guard headquarters that do not have VTS assign AIS operation officers for this duty. The officer watches sea area under the regional responsibility. However, their main duty is not only monitoring, but also informing an AIS carried ship that will be in danger of allision to a fixed fishing net, grounding or others of the danger similar as the VTS manner using AIS safety related message or VHF radio as “Warning.” They also inform of other necessary information for the safety of navigation such as weather information using AIS safety related message or binary message as “Information”.

Although the JCG understands that monitoring ship’s traffic and the situation of area by only AIS display is not sufficient for obtaining the traffic image due to the limitation of AIS, such AIS services are very similar to VTS services of Information Service (INS) and Navigational Assistance Service (NAS) and it is proven that such AIS services quite contribute to the safety of navigation and protection of marine environment. Therefore, it is worth to consider positioning such services as sub-basic VTS service and developing IALA Recommendation and Guideline on AIS service similar to a basic VTS.

## Purpose of the document

This paper proposes the new work program of VTS Committee (principle) and e-NAV Committee for the period of 2014 to 2018.

## Related documents

SOLAS V/12, IMO Resolution A857(20), IALA documents regarding VTS.

# Background

The JCG has established and operated 7 VTS centers based on the paragraph 2 of SOLAS V/12 and these VTS centers are equipped with necessary system and tools for accomplishing its objectives in accordance with the paragraph 2.2.2.7 of IMO Resolution A.857 (20).

In addition, the JCG has established the nation-wide shore based AIS network since 2003 and now operates 93 shore based AIS stations that cover almost all territorial waters of Japan. In order to monitor traffic of ships carried AIS and to transmit necessary information to the ships, the AIS monitor and control console is set up at VTS centers and some regional headquarters in which AIS operation officer is on duty. The console gives a warning to the officer when an AIS ship is in danger of allision to a fixed fishing net, grounding and others, and the officer informs of the danger to the ship by AIS or VHF radio. The console also gathers weather information observed at lighthouses nearby and transmits the information to an AIS ship navigated around such area. These functions of the console are very similar of VTS functionality and the benefits derived from AIS are same as the benefits of the paragraph 2.1.3 of IMO Resolution A. 857 (20). Figure 1 shows a case of avoidance of grounding and figure 2 shows a case of anchor-dragging.



Figure 1: Case of avoidance of grounding by AIS



Figure 2: Case of anchor dragging

# Discussion

Unquestionably AIS is a very effective and useful tool for assisting VTS service. However, according to IMO Resolution A.857 (20), “A VTS should at all times be capable of generating a comprehensive overview of the traffic in its service area combined with all traffic influencing factors.” Monitoring vessel traffic by only AIS or mainly AIS might therefore be inappropriate for the VTS service due to the following limitations of AIS.

* Not all ships carried AIS nor AIS in operation
* Reporting interval of AIS is vary from few seconds to minutes according to navigation status
* Receiving rate is not 100%
* GNSS vulnerability
* Incorrect data input to AIS unit

Furthermore, in those sea area monitored by only AIS, the volume of traffic or the degree of risk is not sufficient enough to justify the establishment of VTS. Consequently, at present, the JCG AIS services introduced above is not considered as Vessel Traffic Services defined by Regulation SOLAS V/12 under the JCG internal regulation.

However, as mentioned above, such AIS services are very similar of INS and NAS of VTS and are proven to be, limited but very effective for the safety of navigation and protection of marine environment. Therefore, the JCG is now considering the following points.

* Should such AIS service be considered as VTS service defined by SOLAS?
* If so, should the AIS operation officer be qualified such as the VTS operator of V-103?
* If so, is there any need of development of IALA documents regarding AIS only VTS service?
* If not, should such AIS service be defined as new service or VTS related service?
* If not, is there any need of development of IALA documents for such service?
* If not, should the AIS operation officer be qualified as like as VTS operator?

# Action requested of the Committee

The Committee is requested to:

1. consider the discussion, and
2. if appropriate, to approve the inclusion of the development of IALA documents for such AIS services into the next working period of 2014 to 2018 under the VTS Committee principal and the e-NAV Committee cooperation.