

PROPOSAL FOR TEST BED OF UNDER KEEL CLEARANCE (UKC) MONITORING USING AIS COMMUNICATION ON BOARD SELECTED DEEP DRAFTED VESSELS TRANSITING IN THE STRAITS OF MALACCA AND SINGAPORE (SOMS)

INTRODUCTION

1. From the concept study of the Under Keel Clearance (UKC) monitoring system completed by OMC International (OMC) commissioned by the 37th TTEG, usage of Automatic Identification System (AIS) had been identified to be most cost effective data communication method to transmit real time UKC information from shore based stations to vessels. Real time UKC information such as tide, wind and current, from shore based stations and the vessel motion dynamics are used to monitor UKC.

2. The benefits of using AIS transmission of UKC information from shore to vessel are as follows:

- a. Infrastructure is already in place to transmit and receive AIS data from shore to ship;
- b. Cost effective means of data transmission; and
- c. No major installation of equipment is required as it uses the vessel's existing AIS communication network

OBJECTIVE

3. The aim of the paper is to propose a test-bed of UKC monitoring using the existing AIS infrastructure on selected deep draft vessels transiting in SOMS.

PROPOSED SCOPE OF WORKS

4. The scope of works would involve:

- a. Selection of 2-3 deep drafted vessels, including type of vessels and maximum speed.
- b. Test the receiving of messages on board vessels;
- c. Observation and logging of AIS coverage on board the vessels;
- d. Analysis of the AIS signal strength while on transit;

- e. Investigate the impacts of using AIS as the method of delivering tidal and meteorological information on the AIS network; and
 - f. Evaluate the effectiveness of the AIS transmission of real time data for UKC monitoring.
5. The key outcomes of the trial are as follows:
- a. Identification of gaps for AIS transmission of real time data;
 - b. Identify potential issues relating to the practical implementation of AIS to deliver UKC information to vessels;
 - c. Recommendations for the way forward for the UKC monitoring for SOMS using AIS.

FOR APPROVAL BY TTEG

6. It is recommended that the TTEG approve the following:
- a. Proposed scope of the study to use AIS to monitor UKC on selected deep drafted vessels transiting in SOMS;
 - b. Seek possible funding from the IMO Straits of Malacca and Singapore Fund and other interested user States and stakeholders of an estimated USD \$ 90,000 funding of the test bed.
7. For further discussion/ deliberation at the 6th PCC.