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Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG **□** PAP **□** Input

**□** ENAV **X** VTS **X** Information

Agenda item [[2]](#footnote-3) 3.2

Technical Domain / Task Number 2 …………………………………

Author(s) / Submitter(s) Korean Coast Guard

Introduction of the VTS English Competency Test in the Republic of Korea

# Summary

The purpose of this paper is to inform about the introduction of the VTS English language competency test, designed and conducted in the Republic of Korea in 2020 according to IALA Guideline G 1132 – VTS Voice Communications and Phraseology.

First, the VTS-specific speaking test was developed by establishing detailed evaluation criteria based on the guideline, and then the developed test was conducted on all Korean VTSOs (342 persons) for gauging national VTS English competencies. Doing so helped organise the future direction of the national VTS English training scheme, which will serve as the basis for enhancing national communication capabilities within the VTSOs’ career lifecycle in terms of training, accreditation, and revalidation.

## Purpose of the document

An information paper for future consideration

## Related documents

IALA Recommendation R 1012 - VTS Communication

IALA Guideline G 1132 – VTS Voice Communications and Phraseology

# Background

Since the successful completion of IALA Guideline G 1132 – VTS Voice Communications and Phraseology, the next step can be to apply this into the actual VTS language training and gauge its effectiveness, and it is an issue to be carefully dealt with. Specifically, the development of a VTS-specific English language test reflecting the updated guideline has been requested for provision in the national training context in order to precisely gauge the trainees’ levels of English from their entry to the completion of the course. Considering the fact that the VTS English test has not yet been developed for this purpose in the international context, the trial to develop a VTS-specific English test focused on listening and speaking skills was attempted in the Republic of Korea, and a mock test targeting all Korean VTSOs via the Computer Based Test (CBT) was conducted. Detailed information will be presented in the following section.

# Discussion

## The Development of the Test

The VTS-specific English test was developed with the collaboration of specialists engaged in VTS, navigation, English training, and Applied Linguistic domains, by using IALA Guideline G 1132 – VTS Voice Communications and Phraseology as the basis for development. Key features of the test are as follows:

* The test comprises 10 questions increasing in difficulty on a CBT basis (e.g., routine to emergency situations, fixed image to video clip showing developing navigational situations, speaking only with given information to a combination of listening and speaking exercises for interactively dealing with situations in a spontaneous manner).
* The evaluation criteria were designed as follows: 1) standardised VTS communication: message structure, phraseology, and message markers; 2) Language delivery: grouping and pausing, emphasis on keywords, speech rate, tone and volume, and pronunciation; and 3) Interpretation and monitoring: identification and provision of key messages, feedback, and closed loop communication.
* According to the types of questions and their characteristics (i.e., questions 1-10), different evaluation criteria were applied. More evaluation factors were applied as the levels of complexity increased.
* All CBT tests were conducted remotely by utilising an online platform, and the results were immediately collected, electronically stored, and prepared for automatic grading by artificial intelligence (machine learning technique) and manually by human specialists.

## The Results

After the completion of the test, the results were calculated with AI machine learning techniques and a team of specialists in VTS, navigation, English training, and linguistics (English for Specific Purposes) domains. The results of the AI scoring system were quite meaningful in that the AI had both learnt a massive amount of Korean VTSOs’ English characteristics with VTS phraseology and human specialists’ scoring methods in advance. During the first trial, however, the results of human specialists were analysed for statistical purposes to minimise errors and increase reliability. The statistically valid outcomes of the national test are as follows:

* The level of language competencies decreases gradually as the number of working years increases. In this sense, the re-training of VTS English after the completion of VTS Model Course V103/1 should be seriously considered. For this, the organisation of specialised VTS language training courses along with updating V-103/2 (VTS supervisor training) and V-103/5 (VTS revalidation process) mode courses needs to be considered.
* In order to overcome the limitations of oral ability evaluation (evaluation reliability, evaluation time required, evaluation budget) that arise when a human evaluator is employed, and to secure the validity of test results through rapid and accurate diagnosis, machine learning and AI Follow-up studies on evaluation are needed.

## Suggestions

Considering the completion of IALA Guideline G 1132 – VTS Voice Communications and Phraseology, the next steps for enhancing and harmonising VTS communication through training and testing should be considered. In order to successfully implement the developed guidelines, the VTS language and communication sections of each model course need to be also carefully examined and updated in accordance with the guideline. In order to facilitate training, accreditation, and revalidation of VTSOs’ qualifications, furthermore, an objective and validated IALA-recognised language testing system should be developed in consideration of:

* the explicit testing criteria gauging overall aspects of VTS English competencies in terms of language elements (e.g., structure, delivery, and choice of lexical items), standardised communication (e.g., SMCP), and the use of plain language;
* the establishment of required qualifications according to the VTSO’s career development from entry to management level in order to ensure the best standardisation of communicative output in practical VTS operations; and
* possible mitigating actions to promote actual implementation of the testing system for its soft landing in individualised local contexts.

# References

1. International Association of Lighthouse Authorities. (2009a) IALA Model Course V-103/1 on Vessel Traffic Services Operator. Paris: IALA.
2. International Association of Lighthouse Authorities. (2009b) IALA Model Course V-103/2 on Vessel Traffic Services Supervisor Training. Paris: IALA.
3. International Association of Lighthouse Authorities. (2009c) IALA Model Course V-103/3 on Vessel Traffic Service On the Job Training. Paris: IALA.
4. International Association of Lighthouse Authorities (2017a) IALA Recommendation 1012 - VTS Communication, Paris: IALA.
5. International Association of Lighthouse Authorities (2017b) IALA Guideline 1132 – VTS VHF Voice Communication, Paris: IALA.
6. International Civil Aviation Organization. (2007) Manual of Radiotelyphony. Montreal: ICAO.
7. International Civil Aviation Organization. (2010) Manual on the Implementation of ICAO Language Proficiency Requirements. Montreal: ICAO.

# Action requested of the Committee

The Committee is requested to:

1. Consider the suggestions of this paper and take appropriate actions.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-2)
2. Leave open if uncertain [↑](#footnote-ref-3)