Input paper: [[1]](#footnote-1) ARM13-7.3.8

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

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

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

Agenda item [[2]](#footnote-2) 7.3

Technical Domain / Task Number 2 1.5.8

Author(s) / Submitter(s) Korea Institute of Aids to Navigation

Example of Marking of breakwaters in Korea

# Summary

This Input paper shows difficulties and status of marking of (sub-merged) breakwaters.

Korean waters have a lot of breakwaters. These are basically protecting the harbour facilities and coastal area from the strong wave and tide. However, complex and many breakwaters could occur confusion to passing vessels. So, ARM committee will make guidance on marking of breakwaters.

## Purpose of the document

To make Marking of breakwaters guidance, this paper will be used as reference.

## Related documents

This paper related with ARM7-6.3(Marking of Break waters from Korea), ARM8-5.3(Marking of Breakwaters from Australia), ARM-9-5.1(Status of AtoN on Submerged Breakwaters in Korea) and O-139(Marking of Man-made offshore structures).

# Background

ARM Committee suggests that guidance on Marking of breakwaters should be included as a new section in O-139 during ARM9.

# Discussion \_ marking of (submerged) breakwaters in korea

This information is based on Dec. 2020.

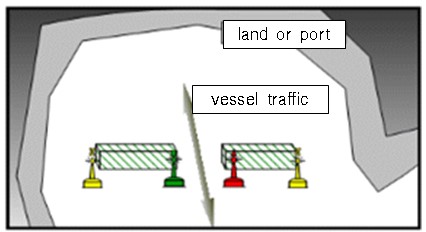
## Additional Criteria for the AtoN arrangement of submerged breakwater

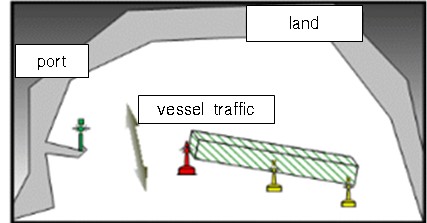
Existing Criteria has not included the case of vessel traffic between submerged breakwaters so far. It is necessary to revise the criteria containing cases following table;

The marking of submerged breakwaters should be in accordance with the following updated criteria

The criteria for the AtoN arrangement of submerged breakwater

|  |  |  |
| --- | --- | --- |
| AtoN Installation Type | Feature of Submerged break water | The criteria for the AtoN arrangement of submerged breakwater |
| Fixed AtoN | Single / composite structure (shorter than 200m) | Lay on the center or both ends of the submerged breakwater (one or two units) |
| Single/composite structure  (longer than 200m) | Lay on the both ends and center at regular intervals (more than three units) |
| Floating AtoN | Single/composite structure  (shorter than 200m) | Lay on the both ends of the outer sea area(vessel traffic area) of submerged breakwaters (one or two units) |
| Single/composite structure  (longer than 200m) | Lay on the both ends and center of the outer sea area(vessel traffic area) of submerged breakwaters (more than three units) |
| Fixed / Floating AtoN | Navigation route between submerged breakwaters | Lay lateral marks on the aside of route, and special mark at the opposite side of edge of breakwater each  In case of the submerged breakwater is long, additional special mark installation at regular intervals is needed |
| In case of harbour facilities at single side | Lay on lateral mark on the aside of route and special mark at the opposite side of edge of breakwater  In case of the submerged breakwater is long, additional special mark installation at regular intervals is needed |

Example:3. Fixed / Floating AtoN



# marking of breakwaters in Austrailia

This information is based on December 2020.

## Status of breakwater

Within Korean waters 80 sites of submerged breakwaters are deployed

# References

1. Regulations for Function and Specification of Aids to Navigation of Republic of Korea

# Action requested of the Committee

The Committee is requested to:

1. Review on this input paper
2. Consider this paper when revise O-139.

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