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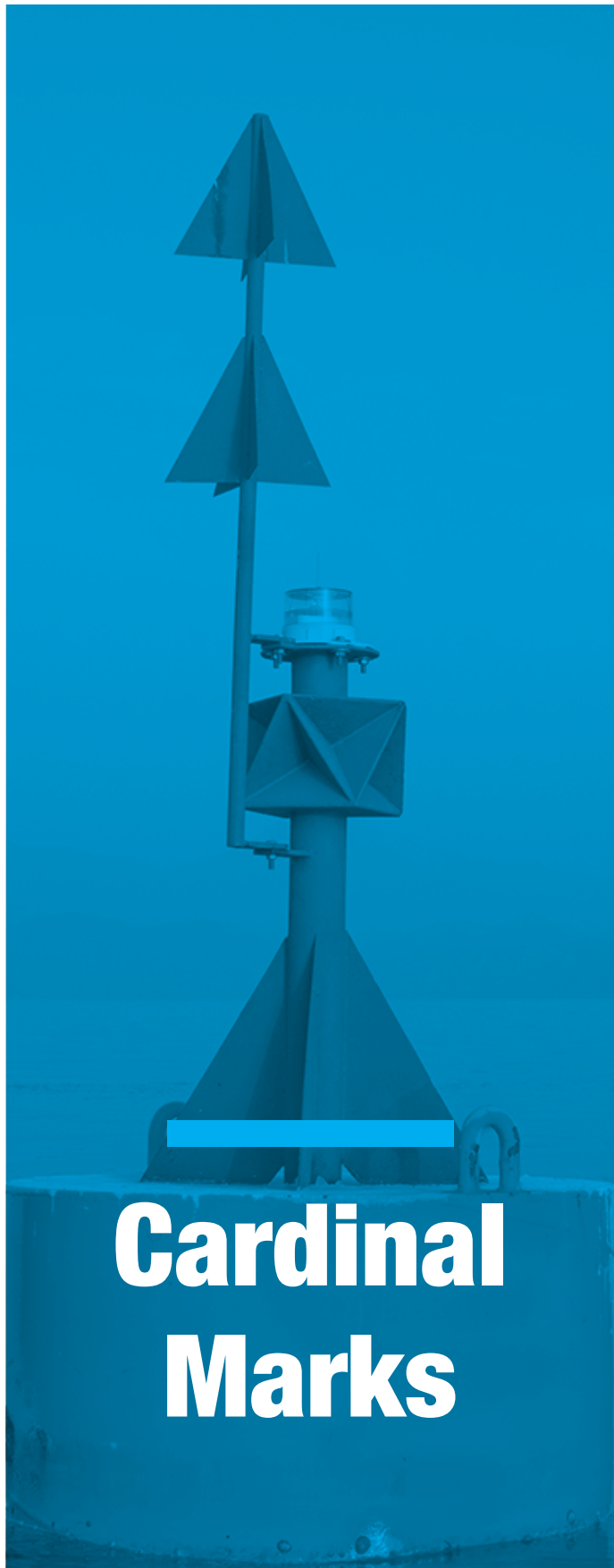
THE IALA MARITIME BUOYAGE SYSTEM AND OTHER MARINE AIDS TO NAVIGATION

IALA RECOMMENDATION

Edition 2

MARCH 2021

DRAFT

Cardinal Marks

2.2 CARDINAL MARKS

2.2.1 Principles

Cardinal marks indicate where safer water in the area lies, in relation to a "point of interest". For example, safer navigable water lies to the North of a North Cardinal Mark, but may also have navigable water East and West of it; the relevant chart should be consulted for further guidance.

Cardinal Marks do not have a distinctive shape but are normally pillar or spar. They are always painted in yellow and black horizontal bands and their distinctive double cone topmarks are always black. It should be noted that when the use of topmarks are impractical in ice conditions, a competent authority may decide topmarks are not to be used.

2.2.1.1 Numbering or lettering

Numbering or lettering to identify the mark or the "point of interest", may be used.

2.2.1.2 Definition of Cardinal quadrants and marks

The four quadrants (North, East, South and West) are bounded by the true bearings NW-NE, NE-SE, SE-SW, and SW-NW, taken from the "point of interest".

a. The type of Cardinal Mark indicates which side of the mark it should be passed by.

b. The Cardinal Marks in Region A and Region B, and their use, are the same.

2.2.2 Rules

The type of Cardinal Mark is indicated by both topmark and coloured bands.

Cardinal Marks also have a defined system of flashing white lights. The rhythms are basically all "very quick" (VQ) or "quick" (Q) flashing but each type of mark uses a different sequence. "Very quick flashing" is defined as a light flashing at a rate of either 120 or 100 flashes per minute; "quick flashing" is a light flashing at either 60 or 50 flashes per minute.

Note: When similar Cardinal Marks are used in close proximity, dissimilar characters should be used.

The concept of three, six or nine flashes is easily remembered when one associates it with a clock face. The long flash, defined as a light appearance of not less than 2 seconds, is to ensure that three or nine very quick or quick flashes cannot be mistaken for six.

It will be observed that two other marks use white lights; Isolated Danger Marks and Safe Water Marks. Each has a distinctive light rhythm that cannot be confused with the very quick or quick flashing light of Cardinal Marks.

2.2.3 Use of Cardinal Marks

A Cardinal Mark may be used, for example:

a. To indicate where the deepest water in that area can be found.

b. To indicate the safe side on which to pass a danger.

c. To draw attention to a feature in a channel such as a bend, a junction, a bifurcation or the end of a shoal.

Competent authorities should consider carefully before establishing too many Cardinal Marks in a waterway, or area, as this can lead to confusion, given their white lights of similar characteristics.
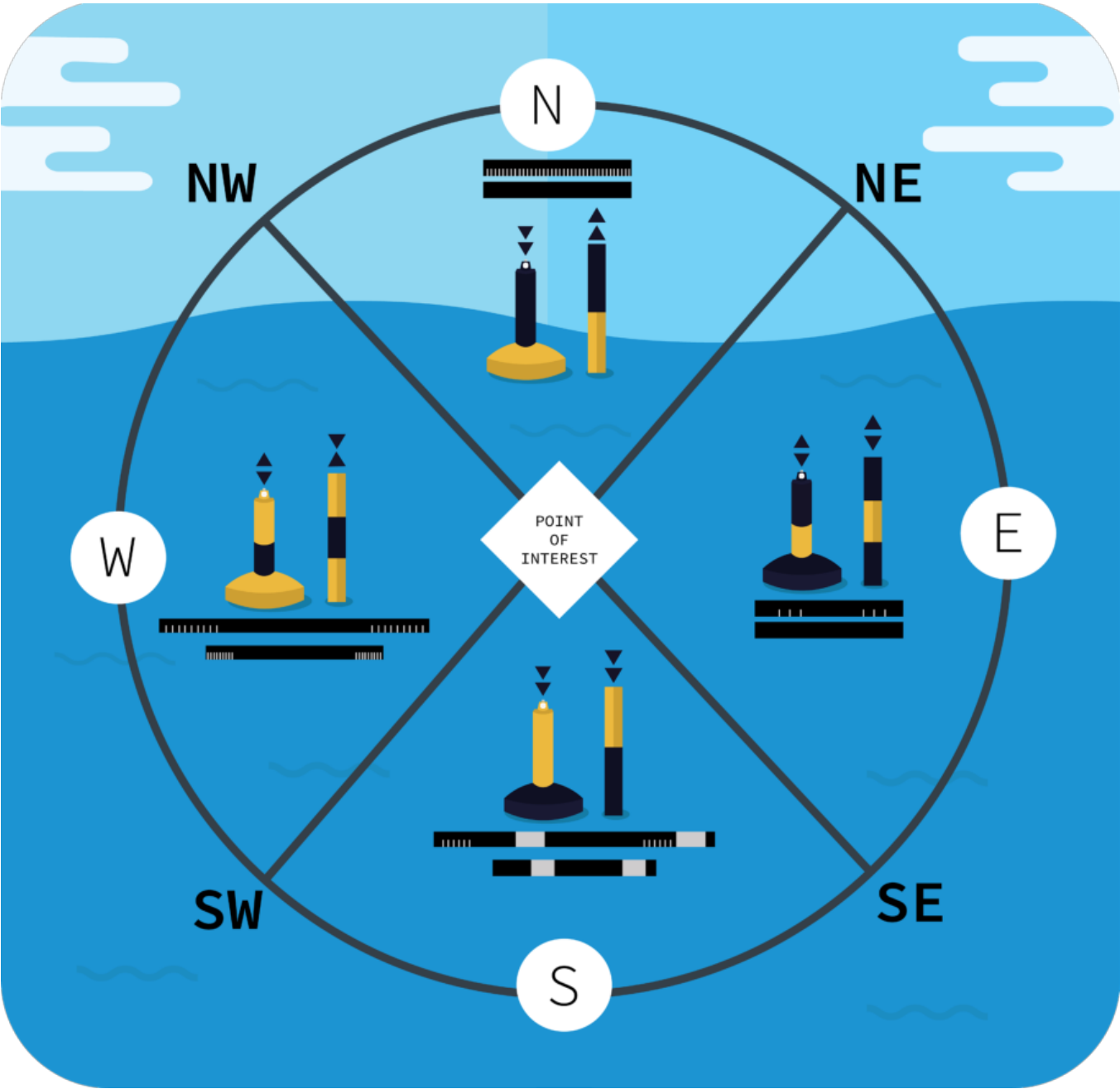
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2.2.4 Description of Cardinal Marks

Figure 5 – Visual depiction of Cardinal Marks

Note (a): The double cone topmark is a very important feature of every Cardinal Mark by day, and should be used wherever practicable and be as large as possible with a clear separation between the cones.

Table 5 - Description of North and East Cardinal Marks

Details	2.2.4.1 North Cardinal Mark	2.2.4.2 East Cardinal Mark
Topmark (a)	2 black cones, one above the other, points upward	2 lack cones, one above the other, base to base
Color	Black above yellow	Black with a single broad horizontal yellow band
Shape of buoys	Pillar or spar	Pillar or spar
Light (when fitted)		
Colour	White	White
Rhythm	VQ or Q	VQ(3) every 5s or Q(3) every 10s
Supplementary (if any)	AIS AtoN (Add type of Mark in naming convention)	AIS AtoN (Add type of Mark in naming convention)
	Racon	Racon

Table 6 - Description of South and West Cardinal Marks

Details	2.2.4.3 North Cardinal Mark	2.2.4.4 West Cardinal Mark
Topmark (a)	2 black cones, one above the other, points upward	2 lack cones, one above the other, base to base
Color	Black above yellow	Black with a single broad horizontal yellow band
Shape of buoys	Pillar or spar	Pillar or spar
Light (when fitted)		
Colour	White	White
Rhythm	VQ or Q	VQ(3) every 5s or Q(3) every 10s
Supplementary (if any)	AIS AtoN (Add type of Mark in naming convention)	AIS AtoN (Add type of Mark in naming convention)
	Racon	Racon

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