

### 3. CARDINAL MARKS

#### 3.1. Definition of Cardinal quadrants and marks

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

3.1.2. A Cardinal mark is named after the quadrant in which it is placed.

3.1.3. The name of a Cardinal mark indicates that it should be passed to the named side of the mark.

#### 3.2. Use of Cardinal Marks

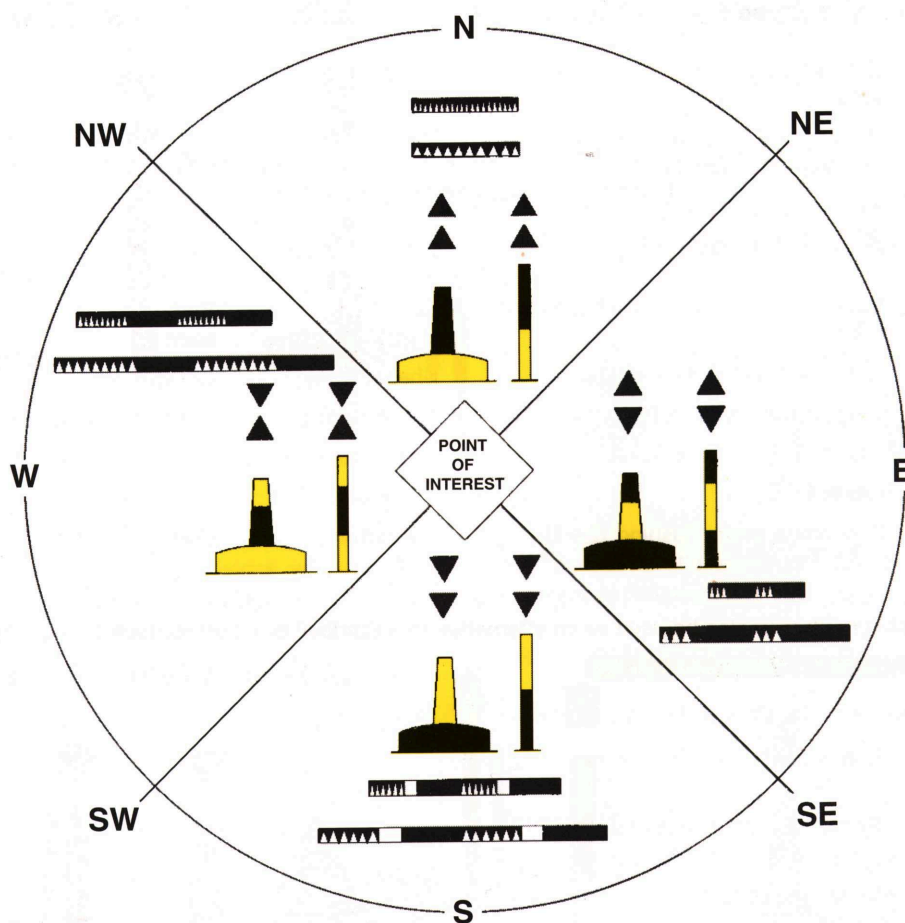
A Cardinal mark may be used, for example:

3.2.1. To indicate that the deepest water in that area is on the named side of the mark.

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

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

#### 3.3. Description of Cardinal Marks



##### 3.3.1. North Cardinal Mark

Topmark<sup>(a)</sup> : 2 black cones, one above the other, points upward

Colour : Black above yellow

Shape : Pillar or spar

Light (when fitted) :

Colour : White

Rhythm : VQ or Q

##### 3.3.2. East Cardinal Mark

Topmark<sup>(a)</sup> : 2 black cones, one above the other, base to base

Colour : Black with a single broad horizontal yellow band

Shape : Pillar or spar

Light (when fitted) :

Colour : White

Rhythm : VQ(3) every 5s or Q(3) every 10s

### 3.3.3. South Cardinal Mark

Topmark<sup>(a)</sup> : 2 black cones, one above the other, points downward  
 Colour : Yellow above black  
 Shape : Pillar or spar  
 Light (when fitted):  
 Colour : White  
 Rhythm : VQ(6) + Long flash every 10s or Q(6) + Long flash every 15s

### 3.3.4. West Cardinal Mark

Topmark<sup>(a)</sup> : 2 black cones, one above the other, point to point  
 Colour : Yellow with a single broad horizontal black band  
 Shape : Pillar or spar  
 Light (when fitted):  
 Colour : White  
 Rhythm : VQ(9) every 10s or Q(9) every 15s

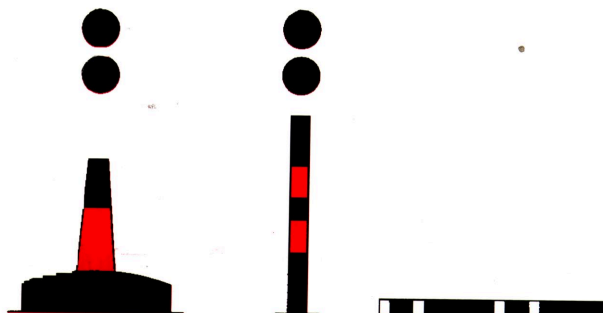
## 4. ISOLATED DANGER MARKS

### 4.1 Definition of Isolated Danger Marks

An Isolated Danger mark is a mark erected on, or moored on or above, an isolated danger which has navigable water all around it.

### 4.2. Description of Isolated Danger Marks

Topmark<sup>(b)</sup> : 2 black spheres, one above the other  
 Colour : Black with one or more broad horizontal red bands  
 Shape : Optional, but not conflicting with lateral marks; pillar or spar preferred  
 Light (when fitted) :  
 Colour : White  
 Rhythm : Group flashing (2)



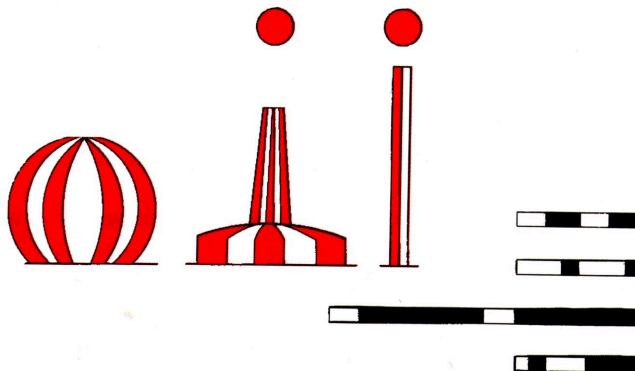
## 5. SAFE WATER MARKS

### 5.1. Definition of Safe Water Marks

Safe Water marks serve to indicate that there is navigable water all round the mark; these include centre line marks and mid-channel marks. Such a mark may also be used as an alternative to a Cardinal or a Lateral mark to indicate a landfall.

### 5.2. Description of Safe Water Marks

Colour : Red and white vertical stripes  
 Shape : Spherical ; pillar or spar with spherical topmark  
 Topmark (if any) : Single red sphere  
 Light (when fitted) :  
 Colour : White  
 Rhythm : Isophase, occulting, one long flash every 10s or Morse "A"



<sup>(a)</sup> 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.

<sup>(b)</sup> The double sphere topmark is a very important feature of every Isolated Danger mark by day, and should be used wherever practicable and be as large as possible with a clear separation between the spheres.

## 6. SPECIAL MARKS

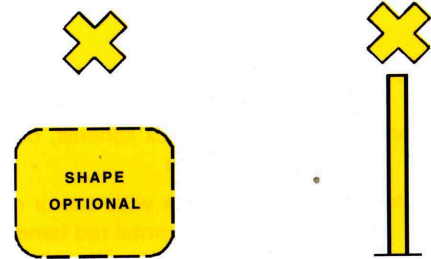
### 6.1. Definition of Special Marks

Marks not primarily intended to assist navigation but which indicate a special area or feature referred to in appropriate nautical documents, for example:

- 6.1.1. Ocean Data Acquisition Systems (ODAS) marks.
- 6.1.2. Traffic separation marks where use of conventional channel marking may cause confusion.
- 6.1.3. Spoil Ground marks.
- 6.1.4. Military exercise zone marks.
- 6.1.5. Cable or pipeline marks.
- 6.1.6. Recreation zone marks.

### 6.2. Description of Special Marks

- Colour : Yellow
- Shape : Optional, but not conflicting with navigational marks
- Topmark (if any) : Single yellow 'X' shape
- Light (when fitted) :
  - Colour : Yellow
  - Rhythm : Any, other than those described in sections 3, 4 or 5



### 6.3. Additional Special Marks

Special marks other than those listed in paragraph 6.1 and described in paragraph 6.2 may be established by the responsible administration to meet exceptional circumstances. These additional marks shall not conflict with navigational marks and shall be promulgated in appropriate nautical documents and the International Association of Lighthouse Authorities notified as soon as practicable.

## 7. NEW DANGERS

### 7.1. Definition of New Dangers

The term "New Danger" is used to describe newly discovered hazards not yet indicated in nautical documents. "New Dangers" include naturally occurring obstructions such as sandbanks or rocks or man made dangers such as wrecks.

### 7.2. Marking of New Dangers

- 7.2.1. "New Dangers" shall be marked in accordance with these rules. If the appropriate Authority considers the danger to be especially grave at least one of the marks shall be duplicated as soon as practicable.
- 7.2.2. Any lighted mark used for this purpose shall have an appropriate Cardinal or Lateral VQ or Q light character.
- 7.2.3. Any duplicate mark shall be identical to its partner in all respects.
- 7.2.4. A "New Danger" may be marked by a racon, coded Morse "D" showing a signal length of 1 nautical mile on the radar display.
- 7.2.5. The duplicate mark may be removed when the appropriate Authority is satisfied that information concerning the "New Danger" has been sufficiently promulgated.

## 8. INTERNATIONAL BUOYAGE REGIONS A AND B

There are two international Buoyage Regions A and B where Lateral marks differ as described in Section 2. The geographical divisions of these two Regions are indicated in the Annex which will, if necessary, be updated from time to time.



# IALA MARITIME BUOYAGE SYSTEM

Buoyage Regions A and B, November 1980

