

# UNIFICATION OF BUOYAGE

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The question of the unification of buoyage has already caused much controversy. The International Hydrographic Bureau has kept its Members informed as to the state of the question and of the progress made towards unification at the various International Conferences.

Articles have been published dealing with this subject in the *Hydrographic Review*, particularly in Volumes III, N° 1, November 1925 and III, N° 2, July 1926, and reports have been made in the *International Hydrographic Bulletin*. In *International Hydrographic Bulletin* N° XI, November 1930, page 261, a concise report is given of the Buoyage Conference which was held in Lisbon in October, 1930.

The Organisation for Communications and Transit of the League of Nations published an official report of this in Document N° C.163.M.58, 1931, VIII, dated 28th February 1931.

At this Conference, new proposals were put forward by Great Britain regarding the unification of buoyage, as follows:

In 1883, when the Uniform System of Buoyage for the then United Kingdom was drawn up, which, except for the provisions regarding the marking of wrecks, is substantially still in force, lighted buoys were comparatively few and unimportant, and consequently there is no mention whatever of their characteristics in the Regulations comprising that system. The recommendations of the International Maritime Conference, held at Washington in 1889, are similarly silent regarding the characteristics of lighted buoys, and even the recommendations of the International Maritime Conference held at St. Petersburg in 1912 (at which Great Britain was not represented) only dealt with them by inference. Lighted buoys, however, have now become such an integral part of the buoyage of all coasts and harbours that, speaking generally, it may be said that the present tendency is to substitute lighted for unlighted buoys in all positions of importance. This being the case, it is now impossible, or at least illogical, to lay down rules regarding the day characters of buoys without reference to their night characters.

Starting from that standpoint, the responsible lighting and buoyage authorities of the United Kingdom have carefully considered upon what principles any new uniform system of buoyage, which, if it were accepted internationally, they would be prepared to adopt nationally, must be based.

After profound study of the question, the conclusions reached by the Authorities of the United Kingdom on the subject of lighting and buoyage are given in detail in an explanatory memorandum, embodied in document N° C.978.M.543, 1931, VIII, issued by the Organisation for Communications and Transit of the League of Nations on 1st December 1931.

That portion of this document, which describes the arrangement of the uniform system of lateral buoyage which was the subject of the British Government's Proposal at Lisbon, is reproduced below.

## DEFINITIONS.

1. The marks to which the following buoyage regulations apply shall include all fixed and floating marks, other than lighthouses and lightships, serving to indicate:

- (1) The lateral limits of navigable channels;
- (2) Natural dangers;
- (3) Other obstructions.

2. In principle, the position of marks (viz., starboard hand or port hand) is determined with reference to the main stream of flood tide, or the general direction taken by the mariner when approaching a harbour, river or estuary from seaward.

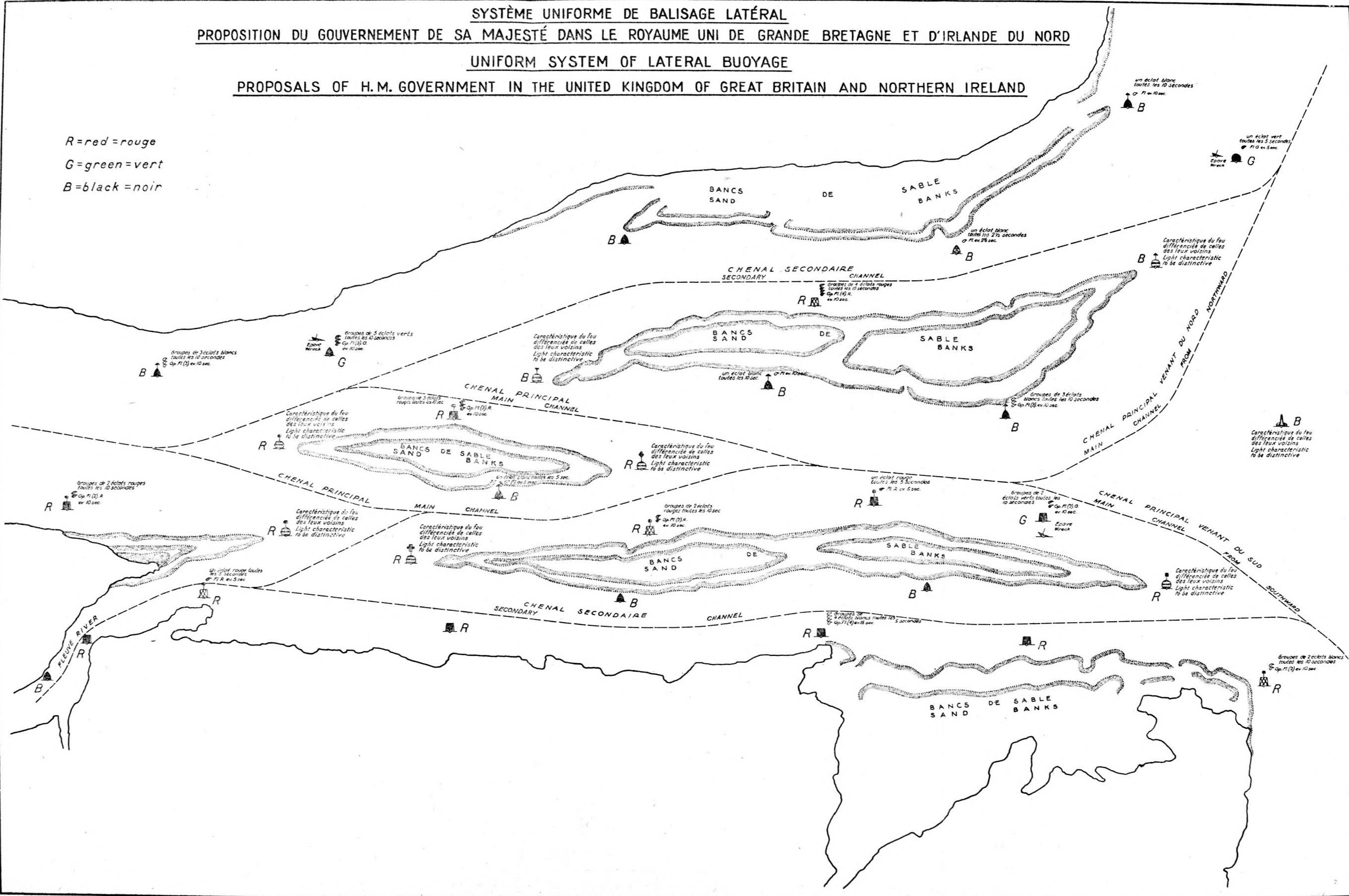
3. *Characteristic Shapes of Marks.* — From the standpoint of the mariner, three principal characteristic shapes of marks are recognised, as follows:

- (1) Upper part pointed; known as "Conical";
- (2) Upper part flattened; known as "Can" (cylindrical);
- (3) Upper part domed; known as "Spherical".

These shapes are given either by the body of the mark or by a superstructure, secured to the mark.

**SYSTÈME UNIFORME DE BALISAGE LATÉRAL**  
**PROPOSITION DU GOUVERNEMENT DE SA MAJESTÉ DANS LE ROYAUME UNI DE GRANDE BRETAGNE ET D'IRLANDE DU NORD**  
**UNIFORM SYSTEM OF LATERAL BUOYAGE**  
**PROPOSALS OF H.M. GOVERNMENT IN THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND**

R=red=rouge  
 G=green=vert  
 B=black=noir



4. *Characteristic Shapes of Topmarks.* — Where necessary, marks are further differentiated by the addition of topmarks, having the appearance of :

- (1) A cone ;
- (2) A cylinder ;
- (3) A sphere ;
- (4) A diamond ;
- (5) A St. George's Cross.

This appearance may be produced by intersecting plates of the requisite sections or by openwork construction (cages).

5. *Mid-Channel Marks* are used to indicate the deep-water channel or fairway. They may be passed on either hand, but should preferably be left to port.

6. *Isolated Danger Marks* are used where it is desired to indicate the position of a danger which can be adequately marked by a single mark, and may be passed on either hand.

7. *Landfall Marks* are used to indicate the seaward approach to a harbour, river or estuary.

#### MARKING OF SIDES OF CHANNELS.

8. Marks on the two sides of a channel shall be differentiated as follows :

(a) *Starboard-hand marks :*

Shape : Conical.

Colour : Black, or, for purposes of differentiation, black-and-white chequers.

Topmark (if any) : A cone point upwards, painted black.

(b) *Port-hand marks :*

Shape : Can (cylindrical).

Colour : Red, or, for purposes of differentiation, red-and-white chequers.

Topmark (if any) : A cylinder, painted red.

9. *Numbering or Lettering of Marks.* — If marks at the sides of a channel are numbered or lettered, this numbering or lettering shall commence from seaward ; odd numbers shall be on the starboard, and even numbers on the port hand.

10. *Lighted Marks.* — Lights on marks on the two sides of a channel are differentiated by colour or by rhythm, or by a combination of both colour and rhythm—viz. :

(a) *Starboard-hand marks :* *Either* a white flashing light showing one or three flashes, *or* a green light of a character not allocated to the marking of wrecks (see Regulation N<sup>o</sup> 19).

(b) *Port-hand marks :* *Either* a red flashing light showing any number of flashes up to four, *or* a white flashing light showing two or four flashes.

#### MIDDLE-GROUND MARKS.

11. Marks at the ends of middle grounds shall have the following characteristics :  
Shape : Spherical.

Colour : Red and white horizontal bands, where the main channel is to the *right* or the channels are of *equal importance*.

Black-and-white horizontal bands, where the main channel is to the *left*.

Topmarks (if any) :

- |   |   |               |
|---|---|---------------|
| (1) Main channel to the <i>right</i> :    | } | Painted red   |
| Outer end, a cylinder ;                   |   |               |
| Inner end, a St. George's Cross.          |   |               |
| (2) Main channel to the <i>left</i> :     | } | Painted black |
| Outer end, a cone point upwards ;         |   |               |
| Inner end, a cone point downwards.        |   |               |
| (3) Channels of <i>equal importance</i> : | } | Painted red   |
| Outer end, a diamond ;                    |   |               |
| Inner end, a sphere.                      |   |               |

12. *Lighted Marks.* — Lights on marks at the ends of middle grounds shall be of a character different from neighbouring lights on marks at the sides of the channel.

## MID-CHANNEL MARKS.

13. Mid-channel marks, where used, shall be as follows :  
 Shape : As far as practicable, to be distinctive and different from the principal characteristic shapes (viz., conical, can and spherical).  
 Colour : Black and white, *or* red and white, vertical stripes.  
 Topmark (if any) : To be of a distinctive shape (viz., not one of the shapes mentioned in Regulation No 4).  
 Light (if any) : To be of a character different from neighbouring lights on marks at the sides of the channel.

## ISOLATED DANGER MARKS.

14. Isolated danger marks, where used, shall be as follows :  
 Shape : Spherical.  
 Colour : Wide black-and-red horizontal bands separated by a narrow white band.  
 Topmark (if any) : Spherical, painted black.  
 Light (if any) : Rhythmic, either white or red (as may be most distinctive, having regard to the character of other lighted marks in the vicinity).

## LANDFALL MARKS.

15. Landfall marks, where used, shall be as follows :  
 Shape : Optional.  
 Colour : Black-and-white, *or* red-and-white, vertical stripes.  
 Light (if any) : Rhythmic.

## SPECIAL MARKS.

16. *Quarantine Ground Marks* :  
 Shape : Optional.  
 Colour : Yellow.
17. *Outfall and Spoil-Ground Marks* :  
 Shape : Optional.  
 Colour : Yellow above and black below.

## MARKING OF WRECKS.

18. *Caution.* — Mariners should always give a wreck mark a wide berth. When two or more vessels and/or buoys are used to mark a wreck, the mariner should not attempt to pass between them.
19. *Wreck-Marking Buoys* (1) :  
 Colour : Green, with, if practicable, the letter "W" in white.  
 (1) If to be passed on the *starboard hand* :  
 Shape : Conical.  
 Light (if any) : Triple-flashing green.  
 (2) If to be passed on the *port hand* :  
 Shape : Can (cylindrical).  
 Light (if any) : Double-flashing green.  
 (3) If buoy can be passed on *either hand* :  
 Shape : Spherical.  
 Light (if any) : Single-occuting green. (2)
20. *Wreck-Marking Vessels* :  
 (a) Colour : Green, with the word "WRECK" or the letter "W" painted in white on both sides.  
 (b) Shapes :  
 (1) If to be passed on the mariner's starboard hand : Three green balls or shapes in a vertical line not less than six feet apart, from the end of a cross-yard ; the lowest shape to be not less than nine feet above the hull.

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(1) *Once their presence is generally known, wrecks may, if desired, be marked in the same manner as natural dangers.*

(2) *Where a wreck which can be passed on either hand is marked by two lighted buoys, one at either end of the wreck, the two buoys may be differentiated by different periods of occultation.*

(2) If to be passed on the mariner's port hand : Two green balls or shapes in a vertical line not less than six feet apart, from the end of a cross-yard, the lower shape to be not less than fifteen feet above the hull.

(3) If vessel can be passed on either hand : Four green balls or shapes, two in a vertical line one over the other, not less than six feet apart, on each end of a cross-yard ; the horizontal distance between the shapes at the two ends of the cross-yard being not less than fifteen feet and not more than twenty-five feet. The two lower shapes to be not less than fifteen feet above the hull.

(c) Lights : Fixed green lights corresponding in number and arrangement to the shapes described above.

A wreck-marking vessel shall not carry the ordinary riding light for a vessel at anchor.

(d) Sound signals : During fog, mist, falling snow or heavy rainstorms, a deep-toned bell shall be rung at intervals of not more than thirty seconds, as follows :

(1) If to be passed on the mariner's starboard hand : three strokes in succession.

(2) If to be passed on the mariner's port hand : two strokes in succession.

(3) If vessel can be passed on either hand : four strokes in succession.

#### GENERAL.

21. Buoys whose purpose *is not* defined in these Regulations shall be painted in such a way as not to lead to confusion with buoys whose purpose *is* defined in these Regulations.

22. The use of fixed lights on buoys should be avoided wherever practicable.

23. In the case of lights placed on permanent works at the entrance of harbours and whose principal purpose is to mark the sides of a channel, the colour and rhythm should, as far as possible, be in accordance with Regulation N<sup>o</sup> 10.

24. When coloured sectors are used on lights forming part of the lateral system of buoyage, it is desirable, when circumstances permit, that their colours should be in accordance with Regulation N<sup>o</sup> 10. In case where this is not considered practicable, the colours should preferably be allocated in accordance with a definite rule laid down for a particular region, in order that the sectors may be arranged in the same manner when the circumstances are identical.

25. Fixed supports of lights forming part of the lateral system of buoyage should, as far as practicable, be painted in the colour characteristic of the position of the light in that system. If the correct characteristic colour cannot be used, the opposite colour should, wherever possible, be avoided.

#### RESERVATION.

26. The provisions of these Regulations may be departed from only in cases where, owing to local conditions or exceptional circumstances, they cannot reasonably be carried into effect, and particularly where their adoption might endanger navigation or where the expenditure involved would be out of proportion to the traffic concerned.

Such departures from these Regulations should, moreover, be as limited as the exigencies of the situation will allow, and proper notice of them should be given to mariners.

All possible steps should be taken in such cases to avoid confusion with the other marks provided for in these Regulations.

