Suggest new title (options):

* Maritime Marking System (MMS) and other marine aids to navigation
* Marine aids to navigation system

Title of the document should be consistent with the title of the guideline – Maritime Buoyage System and other marine aids to navigation and ensure consistency in all documents.

Suggest graphic illustration of chronological timeline of events (this would cover the historical background piece)

**Introduction**

The and other marine aids to navigation, often referred to as MBS is a guide on marine aids to navigation markings. The purpose is to . It is also to help competent maritime authorities to harmonize marine aids to navigation markings.

The MBS has served the maritime community well since its inception in the 1970s, worldwide consultation revealed that the fundamental principles of the MBS should be retained however it is reviewed in light of technological developments in the navigation environment.

**Regions A & B**

There were previously more than thirty different buoyage systems in use world-wide, many of these systems having rules in complete conflict with one another.

It was thought necessary as a first step to define two main systems, one using the colour red to mark the port hand side of the channels and the other using the colour red to mark the starboard hand side of channels. These were called System A and System B, respectively.

The rules for System A, which included both cardinal and lateral marks, were completed in 1976 and agreed by the International Maritime Organization (IMO). It was introduced in 1977 and its use has gradually spread throughout Europe, Australia, New Zealand, Africa, the Gulf and some Asian Countries.

The rules for System B were completed in early 1980. These were considered to be suitable for application in North, Central and South America, Japan, Republic of Korea and Philippines.

At a Conference convened by IALA in November 1980 with the assistance of IMO and the International Hydrographic Organization (IHO), Lighthouse Authorities from 50 countries and the representatives of nine International Organisations concerned with marine aids to navigation met, the two systems were so similar that IALA agreed to adopt a new combined system, known as “The IALA Maritime Buoyage System”.

This single set of rules allowed Lighthouse Authorities the choice of using red to port or red to starboard, on a regional basis; the two regions being known as Region A and Region B.

The boundaries of the buoyage regions were also decided and illustrated on a diagram annexed to the rules.

**Unified & harmonized marking system**

Ideally, a unified marking arrangement is desirable worldwide, this can be achieved through adoption of common characteristics of marine aids to navigation in the respective Regions (A&B).

**Evolution of the MBS**

The most significant changes in the 2010 revision are the inclusion of marine aids to navigation used for marking recommended by IALA that are additional to the floating buoyage system previously included. This is aimed at providing a more complete description of marine aids to navigation that may be used. It includes descriptions of other marine aids to navigation, and the integration of electronic and mobile marks.

Historically the MBS referred to buoys, the physical asset, it should be noted that this document describes a system of “marks” that can be provided in a physical format or electronically, stationary or mobile.

eNav – WG 2

How to incorporate the data aspect into MBS? AtoN authorities will be making available data in standardized format, is that all we need to inform of? Must be in terms that most people can clearly understand.

IALA IGO Status

Action = Secretariat to add some official wording

AIS AtoN

Real, Synthetic, and Virtual AIS AtoN

An AIS AtoN can be implemented in three ways, Real, Synthetic, and Virtual. For Virtual AIS AtoN reference should be made to IALA Recommendation O-143, and to IALA Guideline 1081.

Recommendation A-126 – the use of the Automatic Identification Systems (AIS) in Marine Aids to Navigation Services

**Real AIS AtoN**

A Real AIS AtoN Station is an AIS station located on an AtoN that physically exists.

**Synthetic AIS AtoN**

A Synthetic AIS AtoN is transmitted from an AIS station/base or transponder located remotely from the AtoN.

There are 2 types of Synthetic AIS AtoN, ‘Monitored Synthetic AIS AtoN’ and ‘Predicted Synthetic AIS AtoN’.

Monitored Synthetic AIS AtoN

A ‘Monitored Synthetic AIS AtoN’ is transmitted from an AIS Station/base or transponder that is located remotely from the AtoN. The AtoN physically exists and there is a communication link between the AIS Station/base and the AtoN. The communication between the AtoN and AIS confirms the location and status of the AtoN.

Predicted Synthetic AIS AtoN

A ‘Predicted Synthetic AIS AtoN’ is transmitted from an AIS Station/base or transponder that is located remotely from the AtoN.

The AtoN physically exists but the AtoN is not monitored to confirm its location or status. Is not recommended for use on floating AtoN.

**Virtual AIS AtoN**

A ‘Virtual AIS AtoN’ is transmitted from an AIS Station/base or transponder for an AtoN that does not physically exist.

When a Virtual AIS AtoN is used, the AtoN symbol or information would be available for presentation to a mariner on Electronic Nautical Chart (ENC)/ECDIS, even though there is no real AtoN such as a buoy or beacon.

\*Question: Should there be a diagram showing the AIS AtoN on a chart? Paper & ENC (or combination)

Are there any other beneficial portrayal options in the MBS?