**MBS Review / Gap Analysis**

3rd April 2019

* Will be a «white» document
  + MBS as an annex to the recommenation
* Glossy artwork, not the ARM responsebility
* What’s missing?
  + E-nav, MAtoN,,,,,
* Level of detail?
  + Breakwaters, Signi,,,,,,

**GENERAL CONSIDERATIONS**

* Recommendation R-1001 Edition1 June 2017 approved IALA Council 64 may need review as MBS already annexed to this recommendation.
* Final published version to be the same in all documents. Currently 2018 Navguide has different reference numbers to Recommendation R-1001 Annex, and printed stand-alone booklet.
* MBS currently states “***The IALA Aids to Navigation system has two components: The Maritime Buoyage System and other aids to navigation comprised of fixed and floating devices. This is primarily a physical system, however, all of the marks may be complemented by electronic means****.”* This statement will need updating to incorporate Electronic AtoN. Will Electronic AtoN become a 3rd component or placed in “Other Aids”?
* Ensure SOLAS reference is correct at time of publishing.

**WHAT IS MISSING?**

* Updated section in “Historical Background” to highlight eg: IGO Status, Standards, advances in AtoN technology (mobile/electronic).
* Reference to Standards within Recommendation R-1001 and Annexed MBS.
* Mobile AtoN will need referencing throughout document eg: within Types of Marks and Rules sections. *How will Mobile AtoN fit into the current components of the MBS? We are awaiting guidelines and updated recommendations on Mobile AtoN.*
* Electronic AtoN. These could be included as other marks or under a separate heading. *How will Electronic AtoN fit into the current components of the MBS? We are awaiting guidelines and recommendations on Virtual AtoN.*
* Change title of 8.7 Port and Harbour Marks to include Inland Waterways and Fairways. Suggested Title “Harbour, Inland Waterway and other Local Marks”.
* Updated schematic, and reference to AtoN provision, in Polar Regions.
* Acknowledgement of emerging shipping autonomy technologies which will impact on future physical AtoN provision.

**LEVEL OF DETAIL REQUIRED?**

* Within 8.7 reference SIGNI and other Inland Waterway AtoN systems. However, these are currently referenced as a bullet point under “Other Marks”
* Mooring Buoys to be added to possible uses of Special Marks as per response to France from ARM9. When adjacent to regular AtoN or fairways, mooring buoys should be marked as special marks to avoid confusion.
* Synchronisation of lights. (G1116). Is there reason for the MBS to mention synchronisation as a commonly used feature? Referring to guideline G1116.
* Special Marks. In the latest edition of the MBS some specialised applications of special marks were removed. These have since been added to the IALA Navguide, but when revised they should be added back to the MBS.
* Pictograms. The MBS may mention that special marks can be issued with pictograms explaining their purpose to the mariner. Refer to guideline G1122.
* Retro-reflecting materials. Include the two codes (standard and comprehensive) detailed in recommendation R0106 and refer to said recommendation – or integrate it fully and replace it.
* Floodlights. Guidance on the use of floodlights to highlight AtoN (or indeed as an AtoN in itself) is vague. Gather existing national guidelines and/or use cases and include in MBS or create separate guidance.
* Submerged breakwaters – if the Korean issues with marking of breakwaters lead to new guidance (tentatively, Guideline on Marking of Submerged breakwaters) concerning this that will affect the MBS.