**ARM 12 WG1 TG 1.5.3: Review of G1078 The Use of AtoN in the Design of Fairways**

Task 1.5.3: *Undertake gap analysis of IALA guidance associated with the MBS (completed at ARM9 - ARM12-7.3.3.1 WP MBS Review gap analysis initial, including 1078 The Use of AtoN in the Design of Fairways (June 2011), identify further work to add to the task plan at ARM8. Includes SIGNI buoyage and submerged breakwaters*.

1. **Gap Analysis**

| **Brainstorming - what should be taken into account** | **Appears in current version of G1078?** | **Comments** |
| --- | --- | --- |
| 1. **Considerations when identifying the use and type of AtoN** |  | Include additional heading: **Considerations** |
| 1. Approach to and exiting from a Port or Harbour | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Through an area with specific features, e.g. : |  |  |
| 1. Depths of water, or lack thereof in certain areas / Limited vessel under keel clearance???? | No | Include under new heading as per **point 1** above |
| 1. Underwater- or above water obstructions, such as isolated dangers, wrecks, etc. | No | Include under new heading as per **point 1** above |
| 1. Submerged breakwaters | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Special Mark applications (Ocean Data Acquisition Systems (ODAS) marks, Traffic separation marks where use of conventional channel marking may cause confusion, Spoil Ground marks, Military exercise zone marks, Cable or pipeline marks, Recreation zone marks, Boundaries of anchorage areas, structures such as offshore renewable energy installations, Aquaculture, Mooring buoys and moving objects / hazard (MAtoN) | No | Include under new heading as per **point 1** above |
| 1. Fairway cutting across fishing or protected areas | No | Include under new heading as per **point 1** above |
| 1. Environmental and marine mammal protected areas overlapping | Not really | Include under new heading as per **point 1** above |
| 1. Zoning | No | Include under new heading as per **point 1** above |
| 1. Deviations in Fairway | Yes -4.2(2)&(3)(a), 5.1(a) & (b) |  |
| 1. Split in channel, e.g. a preferred channel | No. Only refers to “fairways intersect” | Include under new heading as per **point 1** above |
| 1. Type of vessels | Yes |  |
| 1. Limited width of Fairway (swinging circle / Resilient/elastic type) | No. 3.1.2 only refers to mooring arrangements in general | Include under new heading as per **point 1** above |
| 1. Accuracy of navigation | Yes |  |
| 1. The distance at which the marks should be detected and identified | Yes Refers to useful, luminous and nominal ranges of lights, dayboards, etc |  |
| 1. Obtain input from the users | No | Include under **point 1** - User Engagements |
| 1. IMO International Regulations for Preventing Collisions at Sea 1972 (COLREGS) as it sets out the "rules of the road“, or navigation rules to be followed by ships and other vessels at sea to prevent collisions between two or more vessels?? | No | Include under new heading as per **point 1** above |
| 1. Visual AtoN required? | Yes |  |
| 1. Audible signals required? | No | Include under **point 4.3** - Perception |
| 1. Electronic AtoN required? | Yes |  |
| 1. Visibility | Yes |  |
| 1. Meteorological & Hydrological conditions | Yes. Refers to meteorological & atmospheric conditions, tides, currents, wind, etc. |  |
| 1. Background lighting | Yes. Refers to colour and illumination of the background & contrast |  |
| 1. Background environment (height & colour of buildings, etc.) | Not specifically | Include under new heading as per **point 1** above |
| 1. Seabed composition | No | Include under new heading as per **point 1** above |
| 1. Single or two-way traffic | No | Include under new heading as per **point 1** above |
| 1. Other local inland navigation rules or instructions | Not specifically, other than a reference to SIGNI |  |
| 1. **What to mark** |  |  |
| 1. Approach to a fairway | Not specifically | Include safe water mark under **point 5** |
| 1. Establish an AtoN, or pair of AtoN, at the beginning and/or end of the fairway | Yes |  |
| 1. Place AtoN at points: |  |  |
| 1. Where vessels have to alter their course, e.g. where the fairway boundary line or the middle line has a bend or curve | Yes 5.1(2) - but do not refer to detail as to why | Include detail in 5.1(2) |
| 1. Where critical shallows and rocks, or other hazards, form the boundary of the fairway | Yes |  |
| 1. At Fairway intersections or confluence areas | Yes. Refers to “fairways intersect” |  |
| 1. Distribute buoys between these points with regard to the distance at which they can be detected and identified | Yes |  |
| 1. Traffic separation scheme | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Bridges, overhanging cables, etc. | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Breakwaters, surface- and underwater | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Other boundaries, e.g. dredging material deployed | No | Include under new heading as per **point 1** above, and elaborate under **point 5** |
| 1. Centre of Fairway | Yes |  |
| 1. Special areas as per point 1 above | Only refers to “different areas” | Include detail under 4.3, 4th bullet |
| 1. **Type of marks** |  |  |
| 1. Land based AtoN |  |  |
| 1. Leading and Transit lines required | Yes, but no Transit Lines |  |
| 1. Daymarks | Yes |  |
| 1. Breakwater lights | No | Include under **point 4.3** - Perception |
| 1. Sector lights | Yes |  |
| 1. Floating AtoN |  |  |
| 1. MBS suite | Yes |  |
| 1. Major floating AtoN | No | Include under new heading as per **point 1** above, and elaborate under **point 4.3** - Perception |
| 1. Tide lanterns – not an AtoN, but provide information | No |  |
| 1. Sound signals | No | Include under new heading as per **point 1** above, and elaborate under **point 4.3** - Perception |
| 1. Electronic AtoN |  |  |
| 1. Racons | No. Only listed in the list of abbreviations, and list of IALA documents | Include under new heading as per **point 1** above, and elaborate under **point 4.3** - Perception |
| 1. AIS AtoN | Yes |  |
| 1. VTS: could have an influence of the type of AtoN to be deployed | No | Include under new heading as per **point 1** above, and elaborate under **point 4.3** - Perception |
| 1. PNT / DGNSS | No | Include under new heading as per **point 1** above, and elaborate under **point 4**, where applicable |
| 1. MAtoN   **Note**: MAtoN are only be considered should there be a need to mark a mobile wreck | No | Not part of the Include under new heading as per **point 1** above, and elaborate under **point 4.3** - Perception |