**ARM Recommendations , Guidelines and 18/22 Work Plan – Working paper**

V1 ARM 7

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| Indicates **NEW** or amended Recommendation is required | Indicates action needed, or a new or amended Guideline, etc. |
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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
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| **IALA1010**  **AtoN Planning and Service Requirements** | **Aids to Navigation planning** | R1001 | **Normative** | **The Maritime Buoyage System** | WP 2018-2022 will revise MBS & provide associated guideline including better guidance on breakwaters and submerged breakwaters. Mobile Aton. Guidance for Navigators on the use of Aton. Marking of temporarily restricted areas, such as areas closed off for sports events, exhibitions, construction works etcetera .Guidance on virtual marking of time-limited restricted areas, such as bird sanctuaries or military exercises.  Consider to have the guidance on virtual marking outside the MBS (re update existing guideline) to keep the MBS at a optimum scale. |
|  |  | R0113  O-113 | **Normative** | The Marking of Fixed Bridges and Other Structures over Navigable Waters |  |
|  |  | R0139  O-139 | **Normative** | The Marking of Man-Made Offshore Structures |  |
|  |  | R1010 | Informative | **The involvement of maritime authorities in Marine Spatial Planning** | G1057 Use of GIS systems by AtoN Authorities  G1121 Navigational Safety Within marine Spatial Planning |
|  |  |  |  |  | G1033 Provision of Aton for different classes of vessels including High Speed craft  G1051 Provision of Aids to Navigation in built up areas  G1078 The use of AtoN in the design of Fairways  G1090 Audible Signals  G1096 Anticipated user eNav Requirements from berth to berth for Aton Authorities Rename or/and update?  G1122 The use of pictograms on Marine Aids to navigation |
|  |  |  |  |  | Develop recommendation and guideline on the use of Mobile Aton (TBC) |
|  |  |  |  |  | Develop Recommendations and guidance on Polar Aton Provision  Consider how wide ranging these documents shall be regarding, level of service, remote areas, cold etc etc. Consider to collect different document in a polar suite? |
|  |  |  |  |  | Develop guidance on the provision of Aton for autonomous vessel operations.  Maybe we need first to find out what type of AtoN, before we define the provisions of AtoN? To early maybe?  BUT, IALA has to start work related to autonomous vessels to keep IALA AtoN relevant for these vessels in the future.  Should IALA maybe facilitate R&D regarding AtoN for these vessels first, or coordinate such R&D? |
|  | **Obligations and regulatory compliance** | R1xxx  NEW |  | **The need for a national competent authority for marine aids to navigation and vessel traffic services** | New Guideline(s) describing purpose, management, legislation needs, regulation needs, perhaps with examples of legislation and regulation clauses to assist understanding.  WWA teaches its students in this area but we have no Recommendation or Guideline.  Input paper regarding maritime law can be used as a starting point, work to be done by the ARM committee with support from LAP. |
|  |  | R1xxx  **NEW** | **Normative** | **The international obligations of competent authorities**  IMO SOLAS, UNCLOS, EU Directives, etc. | New supporting Guideline detailing references and obligations.  WWA teaches in this area but we have no Recommendation or Guideline.  See line above. |
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|  | **Levels of service** | R0130  O-130 | **Normative** | Categorisation and Availability Objectives for Short Range Aids to Navigation | G1004 Level of Service  G1005 Contracting out of Aton Services  Note, check regarding Polar documents to be developed. Consider separate levels of service for different regions. |
|  | **Risk Management** | R1002 | **Normative** | **Risk Management for Marine Aids to Navigation** | Guidelines on:  G1018 Risk Management (review this next period)  G1079 Establishing and conducting user Consultancy by Aton Authorities  G1086 Global Sharing of Maritime data  G1104 On the Application of Maritime surface picture for analysis in risk assessment and the provision of AtoN  G1123 The use of IWRAP mkii  G1124 The use of PAWSA Mkii tool  G1138 Simplified IALA Risk Assessment (SIRA) method |
| Prepare for future IALA-approved risk analysis software that directly accesses and uses our stored IALANET AIS data |
|  |  | R0142  E-142 | Informative | Maritime Data Sharing 'IALA-NET'   * New title **“Maritime data sharing for risk assessment and analysis”** | Revise this Recommendation to note the storage and use of historical [AIS and other] data for risk analysis.  Guideline(s) on:   * How to connect to IALA net * Data format(s) |
|  |  | R0138  O-138 | Informative | The Use of GIS and Simulation by Aids to Navigation Authorities | Simulation recommendation and associated guidelines will be reviewed in wp 2018-2022 in association with ENG to include fast time simulation (or other resent technological developments made)  G1058 Use of Simulation as a tool for Waterway design and AtoN planning |
|  |  | R1003 | Informative | Marine data sharing for Risk assessment analyses | Under development? |
|  |  | **R1009** | **Informative** | Disaster recovery | G1046 Response plan for marking of new wrecks  G1120 Disaster Recovery |
|  |  |  |  |  | Take part in IALA/WWA risk workshops/seminar |
|  |  |  |  |  | In association with other committees provide guidance on cyber security for Aton authorities  Cyber security will be extremely important for all “planned” future services.  Technical issues regarding cyber to be handled by ENG, decision regarding implementation must handled by ARM. |
|  |  | **R1015** | **Normative** | Marking of Hazardous Wrecks |  |
|  |  | **R1016** | **Normative** | Mobile Aton |  |
|  | **Quality management** | R0132  O-132 | **Normative** | Quality Management for Aids to Navigation Authorities | G1052 Quality Management in Aton Service Delivery  G1054 Preparing for Voluntary IMO Audit on Aton Service Delivery  Procedure for the authorization of AIS Aton  G1084 |
|  |  | R0118  O-118 | **Normative** | The Recording of Aids to Navigation Positions | Check if it needs updating? Current edition 2005 |
|  | **Virtual marking** | R0143  O-143 | Informative | Provision of Virtual Aids to Navigation | Will be updated in WP2018-2022  G1081 Virtual AtoN  To include guidance on temporary marking restricted areas etc.  Consider use virtual marking in parallel to NtM (from HO) for instant marking of changes to AtoN (existing and new). |

| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
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| **IALA1020**  **AtoN Design and Delivery** | **Visual AtoN** |  |  |  |  |
|  |  |  |  |  | In association with ENG review recommendations and guidelines associated with synchronization of lights. Revise G1116 formerly 1069 |
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|  |  | R0104  O-104 | **Normative** | Off Station Signals for Major Floating Aids |  |
|  | **Range and Performance** |  |  |  |  |
|  | **Design, Implementation & Maintenance** |  |  |  |  |
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|  | **Floating AtoN** |  |  |  |  |
|  | **Environment, Sustainability & Legacy** |  |  |  | G1137 Aton Management in Protected areas. |
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|  | **Power systems** |  |  |  |  |
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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
| **IALA1030**  **Radionavigation Services** | **Satellite positioning and timing** |  |  |  |  |
|  | **Terrestrial positioning and timing** |  |  |  |  |
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|  | **RACON & Radar positioning** |  |  |  |  |
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|  | **Augmentation services** |  |  |  |  |
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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
| **IALA1040**  **Vessel Traffic Services** | **VTS implementation** |  |  |  |  |
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|  | **VTS operations** |  |  |  |  |
|  | **VTS data and information management** |  |  |  |  |
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|  | **VTS communications** |  |  |  |  |
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|  | **VTS technologies** |  |  |  |  |
|  | **VTS Auditing and assessing** |  |  |  |  |
|  | **VTS additional services** |  |  |  |  |

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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
| **IALA1050**  **Training and Certification** | **Training and assessment** |  |  |  | G1020 Training relating to Aids to Navigation |
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|  | **Accreditation, competency, certification and revalidation** | R0149  O-149 | **Normative** | Accreditation of Training Organisations |  |
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|  | **Capacity building** |  |  |  | In absence of alternate secretariat based review Undertake 4 yearly review of the Iala Navguide |
|  |  |  |  |  | Undertake joint workshop with ENG TBC |
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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
| **IALA1060**  **Digital Communication Technologies** |  |  |  |  |  |
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|  | **Wide/Medium bandwidth systems (AIS & VDES)** |  |  |  | G1050 Management and Monitoring of AIS information  G1062 Establishment of AIS as an AtoN |
|  | **Narrow bandwidth systems (NAVDAT, MF beacons)** |  |  |  |  |
|  | **Harmonised maritime connectivity framework (CMDS)**  **Maritime Internet of Things (Intelligent sensors, AtoN monitoring)** |  |  |  |  |
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| **Standard** | **Topic area** | **Reference** |  | **Recommendation** | **Comment** |
| **IALA1070**  **Information Services** |  |  |  |  |  |
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|  | **Data models and data encoding (IVEF, S-100, S-200, ASM)** | R1xxx  **NEW** | **Normative** | **Data models for digital information services [for VTS and AtoN services] in coastal areas (Technical)** | Supporting Guidelines covering data models and their management   * S200 series * E-NAV 147 as Guideline * Application Specific Messages * Route exchange/route transfer * Maritime Service Portfolios * Time stamps for maritime data |
|  |  |  |  |  | Provide guidance on the implementation of MSPs and associated infrastructure to IALA membership |
|  |  | R0147  e-NAV-147 | **Normative** | Product Specification Development and Management | Merge into Recommendation and its Guidelines |
|  |  |  |  |  | Develop Guideline/Recommendation on Maritime Service Portfolios |
|  |  |  |  |  | G1087 Procedures for the management of the IALA Domain under the IHO GI registry  G1088 Introduction to preparing S100 product specifications  G1106 Producing an IALA S100 Product specification. |
|  | **Data exchange systems (Traffic Information)** |  |  |  |  |
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|  | **Terminology, symbology and portrayal** |  |  |  | Develop recommendation and guidance on the symbology and portrayal of Aton. Liaise with IHO on the portrayal of Aton  Initialize a workshop regarding portrayal between IHO and IALA? |