

## Work Programme for Committees 2018-2022 (as amended at Council 66)

### A. Standards, Recommendations and Guidelines

|  |                                 |  |                         |
|--|---------------------------------|--|-------------------------|
|  | update planned<br>for 2018-2022 |  | No relevant<br>document |
|--|---------------------------------|--|-------------------------|

[G] Not updated in new document numbering

| Standard   | Topic area                     | Recommendation   |  |     |                           | Guideline |  |     | Work to be done<br>2018-2022                            |
|--|--------------------------------|------------------|--|-----|---------------------------|-----------|--|-----|---|
|  |                                | Ref.             | Title  | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |   |
| IALA1010<br>AtoN Planning<br>and Service<br>Requirements | Aids to Navigation<br>planning | R1001            | The IALA Maritime Buoyage System   | ARM | Normative                 | [G]1078   | The Use of AtoN in the Design of<br>Fairways (June 2011)   | ARM | Revision and<br>gap analysis of<br>related<br>documents |
|  |                                | R0111<br>(E-111) | Port Traffic Signals   | ENG | Normative                 |           | Not planned  |     |   |
|  |                                | R0113<br>(O-113) | The Marking of Fixed Bridges and Other<br>Structures over Navigable Waters | ARM | Normative                 |           | Not planned  |     |   |
|  |                                | R0139<br>(O-139) | The Marking of Man-Made Offshore<br>Structures                             | ARM | Normative                 |           | <ul style="list-style-type: none"> <li>meet the identified need of competent authorities, administrations, licence providing organizations and for general and/or detailed guidance on marking requirements of man-made offshore structures</li> <li>provide potential solutions for marking, taking into account various local or regional circumstances</li> <li>lead to a worldwide harmonized marking of these structures benefit the safe and efficient navigation of vessels visiting the mentioned areas and the protection of the</li> </ul> | ARM |   |

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|----------|---------------------------------------|------------------|--|------------|---------------------------|-----------|--|--------------------|---|
|          |                                       | Ref.             | Title  | TC         | Normative<br>/Informative | Ref.      | Title  | TC                 |   |
|          |                                       |                  |  |            |                           |           | marine environment.  |                    |   |
|          |                                       | R1010            | The Involvement of Maritime Authorities in Marine Spatial Planning                               | ARM        | Informative               | [G]1079   | Establishing and Conducting User Consultancy by [Marine] Aids to Navigation Authorities (Dec 2009)   | ARM                |   |
|          |                                       |                  |  |            |                           | G1121     | Navigational Safety Within Marine Spatial Planning (June 2017)   | ARM                |   |
|          |                                       |                  |  |            |                           | [G]1033   | Provision of [Marine] Aids to Navigation for Different Classes of Vessels, Including High-Speed Craft (Dec 2003)   | ARM                |   |
|          |                                       |                  | No document  |            |                           | [G]1096   | Anticipated User e-Navigation Requirements from Berth to Berth, for AtoN Authorities (May 2013)  | ARM                | Revise the document anticipated user eNav requirements (may be deleted) |
|          |                                       |                  | Not planned  |            |                           | [G]1107   | Planning and Reporting of e-Navigation Testbeds (June 2016)  | ENAV               |   |
|          |                                       |                  | No document  |            |                           | [G1090]   | The Use of Audible Signals (Dec 2012)  | ARM                |   |
|          | Obligations and regulatory compliance | R1xxx<br>NEW     | The need for a Competent Authority for Marine Aids to Navigation [and vessel traffic] services   | ARM<br>VTS | Informative               | New       | New Guideline(s) describing purpose, management, legislation needs, regulation needs, perhaps with examples of legislation and regulation clauses to assist understanding. | ARM & Possibly VTS | Develop with support of WWA   |
|          |                                       | R1xxx<br>NEW     | The international obligations of competent authorities<br>IMO SOLAS, UNCLOS, EU Directives, etc. | ARM        | Normative                 | [G]1054   | Preparing for a Voluntary IMO Audit on Aids to Navigation Service Delivery (Nov 2006)  | ARM                |   |
|          |                                       |                  | Not planned  |            |                           | [G]1005   | Contracting Out [Marine] Aids to Navigation Services (Dec 2005)  | ARM                |   |
|          | Levels of service                     | R0130<br>(O-130) | Categorisation and Availability Objectives for Short Range Aids to Navigation                    | ARM        | Normative                 | G1004     | Level of Service   | ARM                |   |

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|          |                 | Ref.             | Title  | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |   |
|          | Risk Management | R1002            | Risk Management for Marine Aids to Navigation  | ARM | Normative                 | [G]1018   | Risk Management (May 2013)   | ARM | Ensure compatibility with risk toolbox                    |
|          |                 |                  |  |     |                           | G1123     | The Use of IALA Waterway Risk Assessment Programme (IWRAP MkII) (June 2017)  | ARM | Develop document to promulgate these to IMO (SN circular) |
|          |                 |                  |  |     |                           | G1124     | The Use of Ports and Waterways Safety Assessment (PAWSA MkII) Tool (June 2017)   | ARM |   |
|          |                 |                  |  |     |                           | G1138     | The Use of the Simplified IALA Risk Assessment Method (SIRA) (Dec 2017)  | ARM |   |
|          |                 |                  |  |     |                           | [G]1104   | The Application of Maritime Surface Picture for Analysis in Risk Assessment and the Provision of [Marine] Aids to Navigation Service Delivery (Dec 2013) | ARM |   |
|          |                 | R0142<br>(E-142) | Maritime Data Sharing 'IALA-NET'<br><ul style="list-style-type: none"><li>New title "Maritime data sharing for risk assessment and analysis"</li></ul> | ENG | Informative               | New       | Revise this Recommendation to note the storage and use of historical [AIS and other] data for risk analysis.   | ARM | ENG and ARM in cooperation                                |
|          |                 |                  |  |     |                           | [G]1086   | Global Sharing of Maritime Data (June 2012)  | ARM | Consider with ref to the above                            |
|          |                 | R0138<br>(O-138) | The Use of GIS and Simulation by [Marine] Aids to Navigation Authorities   | ARM | Informative               | [G]1057   | The Use of Geographical Information Systems by [Marine] Aids to Navigation Service Delivery (Dec 2007)   | ARM |   |
|          |                 |                  |  |     |                           | [G]1058   | The Use of Simulation as a Tool for Waterway Design and [Marine] Aids to Navigation Planning (June 2011)   | ARM | ARM revise R0138 and G1058 in cooperation with ENG        |
|          |                 |                  |  |     |                           | [G]1097   | Technical Features and Technology Relevant for Simulation of AtoN (May 2013)   | ARM | Review and revise with ENG                                |

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|  |                    | Ref.             | Title   | TC  | Normative<br>/Informative | Ref.      | Title   | TC  |  |
|  |                    | R1009            | Disaster recovery   | ARM | Informative               | G1120     | Disaster Recovery (June 2017)   | ARM |  |
|  |                    | R1015            | Marking of Hazardous Wrecks   | ARM | Normative                 | [G]1046   | Response Plan for the Marking of New Wrecks (June 2005)   | ARM |  |
|  |                    | R1016            | Mobile AtoN (MAtoN)   | ARM | Normative                 | New       | Guideline   | ARM |  |
|  | Quality management | R0132<br>(O-132) | Quality Management for Aids to Navigation Authorities   | ARM | Normative                 | [G]1052   | Quality Management in [Marine] Aids to Navigation Service Delivery (Dec 2013)                             | ARM | Revise guideline (not copy ISO texts)    |
|  |                    | R0118<br>(O-118) | The Recording of Aids to Navigation Positions   | ARM | Normative                 |           | Not planned   |     |  |
|  | Virtual marking    | R0143<br>(O-143) | Provision of Virtual Aids to Navigation   | ARM | Informative               | [G]1081   | Virtual [Marine] Aids to Navigation (May 2013)  | ARM | Review the documents                     |
| <b>IALA1020<br/>AtoN Design and Delivery</b> | Visual AtoN        | R0106<br>E-106   | The Use of Retroreflecting Material on Aids to Navigation Marks within the IALA Maritime Buoyage System (June 2017) | ENG | Normative                 | New       | Guideline   | ENG |  |
|  |                    | R0108<br>E-108   | The Surface Colours used as Visual Signal on Aids to Navigation (Dec 2017)  | ENG | Normative                 | G1134     | Surface Colours Used as Visual Signals on AtoN (Dec 2017)   | ENG |  |
|  |                    | R0110<br>E-110   | The Rhythmic Characters of Lights on Aids to Navigation (June 2012)   | ENG | Normative                 | [G]1116   | Selection of Rhythmic Characters and Synchronisation of Lights for [Marine] Aids to Navigation (Dec 2015) | ENG | ARM review G1116 in association with ENG |
|  |                    | R0112<br>E-112   | Leading Lights (Dec 2005)   | ENG | Normative                 | [G]1023   | Design of Leading Lines (Dec 2005)  | ENG | An example is in R0112                   |
|  |                    | R1201<br>E-200-1 | Marine Signal Lights – Colours (Dec 2017)   | ENG | Normative                 |           | No guideline required   |     |  |
|  |                    | R0104<br>O-104   | Off Station Signals for Major Floating Aids (June 2012)   | ARM | Normative                 |           | Not planned   |     |  |
|  |                    |                  | No document   |     |                           | [G]1038   | Methods and Ambient Light Levels for the Activation of AtoN Lights (Dec 2016)                             | ENG |  |

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|          |                       | Ref.             | Title   | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |                                  |
|          |                       |                  | No document   |     |                           | [G]1043   | Light Sources Used in Visual [Marine] Aids to Navigation (Dec 2011)  | ENG | Revise                           |
|          |                       |                  | No document   |     |                           | [G]1048   | LED Technologies and their Use in Signal Lights (Dec 2005)   | ENG | Revise                           |
|          |                       |                  | No document   |     |                           | [G]1061   | Light Applications – Illumination of Structures (Dec 2008)   | ENG | Revise                           |
|          |                       |                  | No document   |     |                           | G1094     | Daymarks for [Marine] Aids to Navigation (June 2016)   | ENG |                                  |
|          |                       |                  | No document   |     |                           | G1122     | The Use of Pictograms on [Marine] Aids to Navigation (June 2017)   | ARM |                                  |
|          | Range and Performance | R0200<br>E-200-0 | Marine Signal Lights Overview   |     | Informative               | New       | May be converted into Guideline (There is presently no guidance on how visual range checks of lighted AtoN should be conducted. The WWA has developed a form to do this which could be added as an Annex.) | ENG |                                  |
|          |                       |                  | No document   |     |                           | [G]1041   | Sector Lights (June 2016)  | ENG |                                  |
|          |                       | R0201<br>E-200-1 | Marine Signal Lights - Colours  | ENG | Normative                 |           |  |     |                                  |
|          |                       | R0202<br>E-200-2 | Marine Signal Lights - Calculation, Definition and Notation of Luminous Range | ENG | Normative                 | G1135     | Determination and calculation of effective intensity   | ENG |                                  |
|          |                       | R0203<br>E-200-3 | Marine Signal Lights – Terms of Measurement                                   | ENG | Normative                 | G1065     | AtoN Signal Light Beam Vertical Divergence (Dec 2017)  | ENG |                                  |
|          |                       |                  |   |     |                           | New       | Existing E200-3 will be converted into a new guideline on Measurement  | ENG |                                  |
|          |                       | R0204<br>E-200-4 | Marine Signal Lights - Determination and Calculation of Effective Intensity   | ENG | Normative                 | G1135     | Determination and Calculation of Effective Intensity (Dec 2017)  | ENG | Guideline to be reviewed in 2018 |
|          |                       | E-200-5          | Marine Signal Lights - Estimation of the Performance of Optical Apparatus     | ENG | Normative                 | New       | New guideline Re-write Rec into a guideline  | ENG |                                  |
|          |                       |                  |   |     |                           | New       | Monitoring of the function and degradation of light sources  | ENG | Write new guideline              |

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|          |  | Ref.           | Title   | TC  | Normative<br>/ Informative | Ref.      | Title  | TC   |   |
|          |  |                |   |     |                            | New       | Service factors for AtoN lights  | ENG  | Write new guideline                                     |
|          |  |                |   |     |                            | New       | Colour fading of plastic AtoN  | ENG  | Write guideline (could be with a guideline on daymarks) |
|          |  |                |   |     |                            | G1073     | Conspicuity of AtoN Lights at Night (Dec 2017)                                     | ENG  |   |
|          |  | R0109<br>E-109 | The Calculation of the Range of a Sound Signal                        | ENG | Informative                |           | No document  |      |   |
|          |  |                | No document   |     |                            | [G]1035   | Availability and Reliability of [Marine] Aids to Navigation (Dec 2004)             | ENG  |   |
|          |  |                | No document   |     |                            | [G]1037   | Data Collection for [Marine] Aids to Navigation Performance Calculation (Dec 2009) | ENG  |   |
|          | Design, implementation and maintenance | R0126<br>A-126 | Use of the AIS Aid to Navigation in Marine Aids to Navigation Service | ARM | Informative                | [G]1082   | An Overview of AIS (June 2016)   | ENAV |   |
|          |  |                |   |     |                            | [G]1062   | Establishment of AIS as a [Marine] Aid to Navigation (Dec 2008)                    | ENAV | Revise  |
|          |  |                |   |     |                            | [G]1084   | Procedure of the Authorisation of AIS AtoN   | ARM  | Revise  |
|          |  |                |   |     |                            | [G]1098   | The Application of AIS AtoN on Buoys (May 2013)                                    | ENG  | Update from 2022  |
|          |  | Rxxxx          | New recommendation on the responsible design and maintenance of AtoN  | ENG | Informative                | [G]1077   | Maintenance of [Marine] Aids to Navigation (Dec 2009)                              | ENG  | Develop recommendation                                  |
|          |  | Rxxxx          | Planned 2018-2022   | ENG | Informative                | G1092     | Safety Management for AtoN Activities (Dec 2017)                                   | ENG  | Develop recommendation                                  |
|          |  |                | No document   |     |                            | [G]1108   | The Challenges of Providing AtoN Services in Polar Regions (Dec 2013)              | ENG  |   |
|          |  | New            | Requirements for AtoN provision in Polar regions (Standard 1010)      | ARM |                            |           |  |      | Develop recommendation                                  |

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|          |                                | Ref.           | Title   | TC  | Normative<br>/ Informative | Ref.      | Title  | TC  |                              |
|          |                                |                | No document   |     |                            | G1136     | Providing AtoN Services in Extremely Hot and Humid Climates (Dec 2017)                   | ENG |                              |
|          |                                |                | No document   |     |                            | G1140     | Commissioning of AtoN Equipment and Systems (Dec 2017)                                   | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1008   | Remote Monitoring and Control of [Marine] Aids to Navigation (May 2009)                  | ENG | review                       |
|          |                                |                | No document   |     |                            | [G]1109   | Theft and Vandalism Deterrents (Dec 2013)  | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1012   | Protection of Lighthouses and [Marine] Aids to Navigation Against Lightning (May 2013)   | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1051   | Provision and Identification of [Marine] Aids to Navigation in Built Up Areas (Dec 2005) | ARM |                              |
|          |                                |                | No document   |     |                            | [G]1091   | Bird Deterrents (Dec 2012)   | ENG |                              |
|          | Floating AtoN                  | R0107<br>E-107 | Moorings for Floating Aids to Navigation                                  | ENG | Informative                | [G]1066   | Design of Floating [Marine] Aid to Navigation Moorings (June 2010)                       | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1006   | Plastic Buoys (Dec 2013)   | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1015   | Painting [Marine] Aids to Navigation Buoys (Dec 2013)                                    | ENG |                              |
|          |                                |                | No document   |     |                            | [G]1099   | The Hydrostatic Design of Buoys (May 2013)   | ENG |                              |
|          | Environment and sustainability | R1004          | Environmental management in the provision of Marine Aids to Navigation    | ENG | Informative                | G1036     | Environmental Management in [Marine] Aids to Navigation (June 2017)                      | ENG |                              |
|          |                                |                |   |     |                            | G1137     | AtoN Management in Protected Areas (Dec 2017)  | ARM |                              |
|          | Heritage and legacy            | R1005          | Conserving the built heritage of lighthouses and other aids to navigation | ENG | Informative                | [G]1007   | Lighthouse Maintenance (Dec 2005)  | ENG |                              |
|          |                                |                |   |     |                            | [G]1076   | Building Conditioning of Lighthouses (Dec 2009)  | ENG |                              |
|          |                                |                |   |     |                            | [G]1049   | Use of Modern Light Sources in   | ENG |                              |

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|----------|---------------|----------------|-------------|----|---------------------------|-----------|---|-----|---|
|          |               | Ref.           | Title       | TC | Normative<br>/Informative | Ref.      | Title   | TC  |   |
|          |               |                |             |    |                           |           | Traditional Lighthouse Optics (Dec 2007)                                      |     |   |
|          |               |                |             |    |                           | [G]1063   | Agreements for Complementary Use of Lighthouses (Dec 2008)                    | ENG |   |
|          |               |                |             |    |                           | [G]1074   | Branding and Marketing Historic Lighthouses (Dec 2009)                        | ENG |   |
|          |               |                |             |    |                           | [G]1075   | Business Plan for the Complementary Use of a Historic Lighthouse (Dec 2009)   | ENG |   |
|          |               |                |             |    |                           | [G]1093   | The Management of Surplus Lighthouse Property (Dec 2012)                      | ENG |   |
|          |               |                |             |    |                           | [G]1080   | Selection and Display of Heritage Artefacts (Dec 2011)                        | ENG |   |
|          | Power systems |                | No document |    |                           | G1039     | Designing Solar Power Systems for AtoN (Dec 2017)                             | ENG |   |
|          |               |                | No document |    |                           | G1039-1   | Solar Power System Calculation Tool   | ENG |   |
|          |               |                | No document |    |                           | G1039-2   | Handbook for Meteorological Data for IALA Solar Power System Calculation Tool | ENG |   |
|          |               |                | No document |    |                           | [G]1064   | Integrated Power Systems Lanterns (Dec 2008)                                  | ENG |   |
|          |               |                | No document |    |                           | G1067-0   | Selection of Power Systems for AtoN and Associated Equipment (Dec 2017)       | ENG |   |
|          |               |                | No document |    |                           | G1067-1   | Total Electric Loads of AtoN (Dec 2017)                                       | ENG |   |
|          |               |                | No document |    |                           | G1067-2   | Power Sources (Dec 2017)  | ENG |   |
|          |               |                | No document |    |                           | G1067-3   | Electric Energy Storage for AtoN (Dec 2017)                                   | ENG |   |
|          |               |                | No document |    |                           | New       | Cybersecurity in AtoN operations  | ENG | Guideline to write Involve all Committees (organize Workshop) |
|          |               |                | No document |    |                           | New       | Floating AtoN   | ENG | Guideline to  |



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|  |                                    | Ref.                      | Title  | TC   | Normative<br>/Informative | Ref.      | Title  | TC   |   |
|  |                                    |                           |  |      |                           |           |  |      | write   |
|  |                                    |                           | No document  |      |                           | New       | Buoy stability testing   | ENG  | Guideline to write                            |
|  |                                    |                           | No document  |      |                           | New       | Marine solar panels  | ENG  | Guideline to write                            |
|  |                                    |                           | No document  |      |                           | New       | Maintenance of AtoN structures   | ENG  | Guideline to write                            |
|  |                                    |                           | No document  |      |                           | New       | AtoN Equipment for use in extreme environments                               | ENG  | Guideline to write                            |
| <b>IALA1030<br/>Radionavigation<br/>Services</b> |                                    |                           | No document  |      |                           | G1127     | Systems and Services for High Accuracy Positioning and Ranging (Dec 2017)    | ENAV |   |
|  | Satellite positioning and timing   | R1xxx<br><b>NEW</b>       | Resilient PNT (identification, impact & mitigation)  | ENG  | Informative               | New       | Resilient PNT  | ENG  | Input to ITU and RTCM document, if necessary. |
|  | Terrestrial positioning and timing | R1xxx<br><b>NEW</b>       | Terrestrial radionavigation systems<br>Can note the IMO multi-sensor receiver for SOLAS ships (NCSR/MSC) | ENG  | Informative               | G1125     | The Technical Approach to Establishing a Maritime eLoran Service (June 2017) | ENAV |   |
|  |                                    | R1011                     | The performance and monitoring of eLoran services in the frequency band 90-110 kHz                       | ENG  | Normative                 |           |  |      | Coordinate with RTCM                          |
|  |                                    |                           |  |      |                           | New       | For R-mode   | ENG  | Develop                                       |
|  |                                    |                           |  |      |                           | New       | Product specification support (e-Loran etc)                                  | ENG  | Develop product specification                 |
|  | RACON & Radar positioning          | e-NAV-146                 | Maintaining Racon Service Capability   | ENAV |                           | [G]1010   | Racon Range Performance (June 2005)  | ENAV | Revise  |
|  |                                    | <del>R1006</del><br>R-101 | Marine Radar Beacons (racons)  | ENAV | Normative                 |           | No document  |      | Review  |
|  |                                    |                           |  |      |                           | New       | New guideline on e-Racons (standard approach)                                | ENG  | New guideline                                 |
|  | Augmentation services              | R0115                     | The Provision of Maritime Radionavigation Services in the  | ENAV | Normative                 | [G]1016   | Bilateral Agreements and Inter-Agency Memorandums of Understanding on        | ENG  |   |

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|   |                           | Ref.           | Title  | TC   | Normative<br>/Informative | Ref.      | Title   | TC   |  |
|   |                           | R-115          | Frequency Band 283.5-315 kHz in Region 1 and 285-325 kHz in Regions 2 and 3            |      |                           |           | the Provision of DGNSS Services in the Frequency Band 283.5 – 325 kHz (June 2001)   |      |  |
|   |                           | R0121<br>R-121 | The Performance and Monitoring of DGNSS Services in the Frequency Band 283.5 - 325 kHz | ENAV | Normative                 | [G]1112   | Performance and Monitoring of DGNSS Services in the Frequency Band 283.5 – 325 kHz (May 2015)                                     | ENG  |  |
|   |                           | R0150<br>R-150 | DGNSS service provision upgrade and future use   | ENAV | Informative               | [G]1053   | Submission of a DGNSS Service for Recognition as a Component of the IMO World-Wide Radionavigation Service (Nov 2006)             | ENG  |  |
|   |                           | R-135          | The Future of DGNSS  | ENAV |                           | [G]1060   | Recapitalisation of DGNSS (June 2011)   | ENG  |  |
|   |                           |                | No document  |      |                           | [G]1119   | Marine Beacon Coverage Prediction (Dec 2016)  | ENG  |  |
|   |                           |                | No document  |      |                           | G1126     | Calculation of DGNSS Antenna Efficiency (June 2017)   | ENG  |  |
|   |                           | R-129          | GNSS Vulnerability and Mitigation Measures   | ENAV |                           | New       | Becomes a Guideline under IALA1030. Maybe some text from R-129 can inform Recommendation above                                    | ENAV | Review R129 & move to Satellite P&T  |
|   |                           | New            | SBAS performance for Maritime  | ENG  | Informative               | G1129     | The Retransmission of SBAS Corrections Using MF-Radio Beacon and AIS (Dec 2017)<br>Develop guidance on satellite vulnerabilities. | ENG  |  |
|   |                           |                |  |      |                           | New       | Marine beacon support (maintenance, knowledge, harmonisation)   | ENG  | New guideline to write   |
| <b>IALA1040<br/>Vessel Traffic Services</b> | <b>VTS implementation</b> |                | No IALA document   |      |                           |           | No IALA document  |      | Revision of IMO Resolution A.857(20) Guidelines on Vessel Traffic Services |
|   |                           | R0102          | The application of the 'User Pays'   | VTS  | Informative               |           | Not planned   |      |  |

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|          |                | Ref.           | Title   | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |                              |
|          |                | V-102          | principle to Vessel Traffic Services  |     |                           |           |  |     |                              |
|          |                | R0119<br>V-119 | The Implementation of Vessel Traffic Services (Review and update)   | VTS | Normative                 | [G]1071   | Establishment of a Vessel Traffic Service Beyond Territorial Seas (Dec 2009)                                 | VTS |                              |
|          |                |                |   |     |                           | [G]1083   | Standard Nomenclature to Identify and Refer to VTS Centres (June 2011)                                       | VTS |                              |
|          |                |                |   |     |                           | New       | [Guidance and/or] Model Course on Planning, Implementing, Operating and Managing VTS in developing countries | VTS | New Guidance                 |
|          |                |                |   |     |                           | New       | Human Factors and Ergonomics in VTS  | VTS | New Guidance                 |
|          |                |                |   |     |                           | New       | Guidance for Non-VTS Ports (previously described as Local Port Services - LPS)                               | VTS | New Guidance                 |
|          |                | R0120<br>V-120 | Vessel Traffic Services in Inland Waters  | VTS | Informative               |           | Not planned  |     |                              |
|          | VTS operations | R0127<br>V-127 | Operational Procedures for Vessel Traffic Services<br>Review/update with a view to a new Recommendation on VTS Operations with associated Guidelines on Operational Procedures, etc. (For example, as has been done for Communications, Auditing and Assessing, etc.<br><br><ul style="list-style-type: none"> <li>Note - The current Recommendation only refers to Operational Procedures and provides no reference to the associated Guidelines listed in the adjoining column.</li> <li>A draft Recommendation on VTS</li> </ul> | VTS | Normative                 | [G]1089   | Provision of VTS Services (INS, TOS & NAS) (Dec 2012)  | VTS |                              |
|          |                |                |   |     |                           | [G]1110   | Use of Decision Support Tools for VTS Personnel (Dec 2014)   | VTS | Review                       |
|          |                |                |   |     |                           | G1131     | Setting and Measuring VTS Objectives (Dec 2017)  | VTS |                              |
|          |                |                |   |     |                           | New       | Guidelines for Promulgating the Requirements of a VTS To Mariners – A VTS Users Guide Template               | VTS |                              |

| Standard | Topic area                          | Recommendation |  |     |                           | Guideline |  |     | Work to be done<br>2018-2022 |
|----------|-------------------------------------|----------------|--|-----|---------------------------|-----------|--|-----|------------------------------|
|          |                                     | Ref.           | Title  | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |                              |
|          |                                     |                | Operations and a Guideline on Operational Procedures could be prepared intersessionally for VTS 45 |     |                           |           |  |     |                              |
|          |                                     |                | No document  |     |                           | [G]1045   | Staffing Levels at VTS Centres (Dec 2005)  | VTs |                              |
|          |                                     |                |  |     |                           | [G]1118   | Marine Casualty / Incident Reporting and Recording, Including Near-Miss Situations as it Relates to VTS (Dec 2016) | VTs |                              |
|          |                                     |                |  |     |                           | New       | Maritime Service Portfolios for VTS  | VTs | New Guidance                 |
|          |                                     |                |  |     |                           | New       | Implications of Maritime Autonomous Surface Ships from a VTS Perspective   | VTs | New Guidance                 |
|          |                                     |                |  |     |                           | New       | How to develop a Safety Culture in VTS   | VTs | New Guidance                 |
|          |                                     |                |  |     |                           | New       | Development and Implementation of VTS related MSP's other than MSP 1, 2 and 3.                                     | VTs | New Guidance                 |
|          |                                     |                |  |     |                           | New       | Management of a VTS  | VTs | New Guidance                 |
|          | VTs data and information management | R0125 V-125    | The use and presentation of symbology at a VTS centre  | VTs | Normative                 |           | No document  |     |                              |
|          |                                     | R1014          | Portrayal of VTS information and data  | VTs | Normative                 | New       | Guideline on the portrayal of VTS information and data   | VTs | New Guideline                |
|          |                                     | New            | Cyber-Security (Recommendation)  | ENG | Informative               |           |  |     | All Committees via Workshop  |
|          | VTs communications                  | R1012          | VTs Communications   | VTs | Normative                 | G1132     | VTs VHF Voice Communication (Dec 2017)   | VTs |                              |
|          |                                     |                |  |     |                           | New       | VTs Communication Phrases/Phraseology  | VTs | New Guideline                |

| Standard                                       | Topic area                 | Recommendation      |   |     |                           | Guideline |  |     | Work to be done<br>2018-2022  |
|--|----------------------------|---------------------|---|-----|---------------------------|-----------|--|-----|---|
|  |                            | Ref.                | Title   | TC  | Normative<br>/Informative | Ref.      | Title  | TC  |   |
|  |                            | R1xxx<br><b>NEW</b> | Digital information transfer between ship and shore in VTS operations (Operational aspects) | VTS | Normative                 |           | See IALA1070 for a separate technical Recommendation to cover message format, communications channels, etc. Covers:<br><ul style="list-style-type: none"> <li>Maritime safety information (MSPs)</li> <li>Route information transfer (route exchange)</li> <li>And others</li> </ul> | VTS | The VTS Ctee prefers to wait for MSP related outputs first then takes this work item on board as appropriate. |
|  | VTS technologies           | R0128<br>V-128      | Operational and Technical Performance of VTS Systems  | VTS | Normative                 | [G]1111   | Preparation of Operational and Technical Performance Requirements for VTS Systems (May 2015)   | VTS | Review  |
|  |                            |                     |   |     |                           | New       | Technical Acceptance of a VTS System   | VTS | New Guidance  |
|  | VTS Auditing and assessing | R1013               | Auditing and Assessing Vessel Traffic Services  | VTS | Normative                 | [G]1101   | Auditing and Assessing VTS (Dec 2013)  | VTS |   |
|  |                            |                     |   |     |                           | [G]1115   | Preparing for an IMO Member State Audit Scheme (IMSAS) on Vessel Traffic Services (Dec 2015)   | VTS |   |
|  | VTS additional services    |                     | No document   |     |                           | [G]1070   | VTS Role in Managing Restricted or Limited Access Areas (Dec 2009)   | VTS |   |
|  |                            |                     | No document   |     |                           | [G]1102   | VTS Interaction with Allied or Other Services ( Dec 2013)  | VTS |   |
|  |                            |                     | No document   |     |                           | G1130     | Technical Aspects of Information Exchange Between VTS and Allied or Other Services (Dec 2017)  | VTS |   |
| <b>IALA1050<br/>Training and Certification</b> | Training and assessment    | R0141<br>(E-141)    | Training and Certification of AtoN Personnel  | ENG | Normative                 | [G]1020   | Training Related to [Marine] Aids to Navigation (Dec 2005)   | ARM | Update (ongoing) via WWA<br>Make one for both AtoN and VTS  |

| Standard                                       | Topic area   | Recommendation      |  |      |                           | Guideline    |   |      | Work to be done<br>2018-2022              |
|--|--|---------------------|--|------|---------------------------|--------------|---|------|---|
|  |  | Ref.                | Title  | TC   | Normative<br>/Informative | Ref.         | Title   | TC   |   |
|  |  | R0103<br>(V-103)    | Training and Certification of VTS Personnel  | VTS  | Normative                 | [G]1017      | Assessment of Training Requirements for Existing VTS Personnel, Candidate VTS Operators, Revalidation of VTS Operator Certificates (Dec 2005) | VTS  | Review<br>5 MC associated<br>with V-103   |
|  |  |                     |  |      |                           | [G]1027      | Simulation in VTS Training (Dec 2005)   | VTS  |   |
|  |  |                     |  |      |                           | [G]1103      | Train the Trainer (Dec 2013)  | VTS  |   |
|  | Human factors and ergonomics   |                     | No document  |      |                           |              | No document   |      |   |
|  | Capacity Building  |                     | No document  |      |                           |              | No document   |      |   |
|  | Competency, certification and revalidation   | R0149<br>(O-149)    | Accreditation of Training Organisations  | ARM  | Normative                 | G1100        | The Accreditation and Approval Process for AtoN Personnel Training (Dec 2017)   | ENG  |   |
|  |  |                     |  |      |                           | [G]1014      | Accreditation and Approval Process for VTS Training Courses (Dec 2011)  | VTS  |   |
|  | Model Courses  |                     | Model Courses are not belong to Recommendations either Guidelines.   |      |                           | AtoN Level 1 | L1.1 – L1.5 (see annex)   |      | On going work                             |
|  |  |                     |  |      |                           | AtoN Level 2 | L2.0 – L.2.11 (see annex)   |      | On going work                             |
|  |  |                     |  |      |                           | VTS          | V-103/1 – 5 (see annex)   |      | On going work                             |
|  |  |                     |  |      |                           | New          | New Model Course on Master of AtoN Management   |      | On going work                             |
| IALA1060<br>Digital Communication Technologies | Harmonised maritime connectivity framework (CMDS) Maritime Internet of Things (Intelligent sensors, AtoN monitoring) | R1xxx<br><b>NEW</b> | <p>Communications channels for [public service] digital information services in coastal areas.</p> <ul style="list-style-type: none"> <li>Single new Recommendation on (free-to-air, non-commercial) communications channels to be used by coastal authorities for digital information transfer between ship and shore in coastal areas</li> </ul> | ENAV |                           | [G]1105      | Shore-side portrayal ensuring harmonisation with e-Navigation related information   | ENAV | Develop. Can refer to MRCP as an Appendix |

| Standard | Topic area                                 | Recommendation       |  |      |                            | Guideline |   |      | Work to be done<br>2018-2022                                   |
|----------|--|----------------------|--|------|----------------------------|-----------|---|------|--|
|          |  | Ref.                 | Title  | TC   | Normative<br>/ Informative | Ref.      | Title   | TC   |  |
|          |  |                      | may absorb A-123 and A-124   |      |                            |           |   |      |  |
|          |  |                      | No document  |      |                            | New       | Tidal flow data capture & display   | ENG  | Guideline to write   |
|          |  | R0140<br>(e-NAV-140) | e-Navigation architecture  | ENAV | Informative                | [G]1113   | Design and Implementation Principles for Harmonised System Architectures of Shore-Based Infrastructure (May 2015) | ENAV | Revise   |
|          |  |                      |  |      |                            | [G]1114   | A Technical Specification for the Common Shore-Based System Architecture (CSSA) (May 2015)                        | ENAV | Revise   |
|          |  | R0148<br>(e-NAV-148) | The need to implement regional e-Navigation solutions based on international standards | ENAV | Informative                | New       | New guideline could be merged with R0140  | ENAV | Revise   |
|          |  | R1xxx<br><b>NEW</b>  | maritime connectivity platform   | ENAV | Informative                | New       | Maritime Connectivity Platform  | ENAV | Awaiting further development of MCP initiatives by Korea et al |
|          | Wide/Medium bandwidth systems (AIS & VDES) | R1007                | The VHF Data Exchange System (VDES) for shore infrastructure (June 2017)               | ENAV | Normative                  | G1117     | VHF Data Exchange System (VDES) Overview (Dec 2017)   | ENAV |  |
|          |  |                      |  |      |                            | G1139     | Technical Specification of VDES (Dec 2017)  | ENAV |  |
|          |  |                      |  |      |                            | New       | Input to ITU-R.M.2092-0 and -1  | ENAV | Develop  |
|          |  |                      |  |      |                            | New       | Input to IEC test standard  | ENAV | Develop  |
|          |  | R0123<br>(A-123)     | The Provision of Shore Based Automatic Identification System (AIS) (June 2007)         | ENAV | Normative                  | [G]1050   | Management and Monitoring of AIS Information (Dec 2005)   | ARM  | Review   |
|          |  | R1008                | The AIS Service<br>Planned in draft Standard 1060                                      | ENAV |                            | New       | Move recommendation A-124 content to Recommendation R1008 remainder   | ENAV |  |

| Standard                                | Topic area  | Recommendation      |   |      |                         | Guideline |  |      | Work to be done<br>2018-2022                                      |
|---|---|---------------------|---|------|-------------------------|-----------|--|------|---|
|   |   | Ref.                | Title   | TC   | Normative / Informative | Ref.      | Title  | TC   |   |
|   |   |                     | (supersedes A-124)  |      |                         |           | to Guideline(s)  |      |   |
|   |   |                     |   |      |                         | New       | A-124 APPENDIX 0 to APPENDIX 19 become Guidelines for Recommendation R1008                                 | ENAV |   |
|   | Narrow bandwidth systems (NAVDAT, MF beacons)           | R1xxx<br><b>NEW</b> | Digital MF information broadcast                                | ENAV | Normative               | New       | Supporting Guideline 500KHz Other channels (MF beacons)  | ENAV |   |
| <b>IALA1070</b><br>Information Services | Data models and data encoding (IVEF, S-100, S-200, ASM) |                     |   |      |                         | New       | Data Model for Digital Information Services for VTS (e.g. route exchange)                                  | VTS  | A data model and a product specification in S-200 Under e-NAV-147 |
|   |   |                     |   |      |                         | New       | Maritime Service Portfolios  | ARM  | Develop a new Guideline   |
|   |   | e-NAV-144           | Harmonized implementation of Application Specific Message (ASM) | ENAV | Normative               | [G]1095   | Harmonized Implementation of Application Specific Messages (ASMs) (May 2013)                               | ENAV |   |
|   |   | R0147<br>e-NAV-147  | Product Specification Development and Management                | ARM  | Normative               | [G]1088   | Introduction to Preparing S-100 Product Specifications (Dec 2012)  | ARM  |   |
|   |   |                     |   |      |                         | [G]1085   | Standard Format for Electronic Exchange of AtoN Product Information  | ARM  |   |
|   |   |                     |   |      |                         | G1106     | Producing an IALA S-200 Series Product Specification (June 2017)   | ARM  |   |
|   |   |                     |   |      |                         | G1106-1   | IALA Product Specification Number Template (Dec 2017)  | ARM  |   |
|   |   |                     |   |      |                         | G1106-2   | Proposal for Additional S-100 Feature Concept Dictionary (FCD) Item – Name of Proposed FCD Item (Dec 2017) | ARM  |   |



| Standard | Topic area                                  | Recommendation      |  |      |                           | Guideline |   |      | Work to be done<br>2018-2022      |
|----------|---|---------------------|--|------|---------------------------|-----------|---|------|-----------------------------------|
|          |   | Ref.                | Title  | TC   | Normative<br>/Informative | Ref.      | Title   | TC   |                                   |
|          |   |                     |  |      |                           | G1106-3   | Product Specification under Development – Template (Dec 2017)                           | ARM  |                                   |
|          |   | R0145<br>V-145      | The Inter-VTS Exchange Format (IVEF) Service | VTS  | Normative                 | New       | Split into Recommendation and Guideline   | VTS  | Review recommendation             |
|          |   | R1xxx<br><b>NEW</b> | Maritime Resource Names                      | ENAV | Informative               | G1087     | Procedures for the Management of the IALA Domains under the IHO GI Registry (June 2017) | ENAV |                                   |
|          |   |                     |  |      |                           | G1128     | The Specification of e-Navigation Technical Services (Dec 2017)                         | ENAV |                                   |
|          | Data exchange systems (Traffic Information) |                     |  |      |                           | [G]1072   | AtoN Information Exchange and Presentation (Dec 2009)                                   | ARM  | Review to make 1 G with G1105     |
|          | Terminology, symbology and portrayal        |                     |  |      |                           | New       | Symbology and portrayal of AtoN   | ARM  | New guidance and liaison with IHO |

## B. IALA Manuals

| Title                                    | Edition | Date of last revision | Remarks |
|--|---------|-----------------------|---------|
| NAVGUIDE                                 | 8       | 2018                  |         |
| IALA Complementary Lighthouse Use Manual | 2       | 2017                  |         |
| IALA VTS Manual                          | 6       | 2016                  |         |

## C. IALA Model Courses

### a. AtoN

| Ref.           | Edition | Title  | Date of last revision |
|----------------|---------|--|-----------------------|
| L1.1           | Ed3     | Marine Aids to Navigation - Manager Training   | 1-Dec-17              |
| L1.3           | Ed2     | Aids to Navigation manager training Level 1- Use of the IALA Risk Management Tools             | 1-Dec-15              |
| L1.4           | Ed2     | Aids to Navigation Management Training Level 1 – Global Navigation Satellite Systems and e-NAV | 1-Dec-15              |
| L1.5           | Ed1     | Historic Lighthouse Projects   | 14-Dec-14             |
| L2.3.9         | Ed2     | Maintenance of Mercury Rotating Optics   | 1-Jun-16              |
| L2.1.1 & 2.1.2 | Ed1     | Introduction to Aids to Navigation   | 10-Oct-12             |
| L2.1.3 & 2.1.4 | Ed2     | Introduction to AtoN Buoyage   | 1-Jun-16              |
| L2.1.8         | Ed2     | Buoy Cleaning  | 1-Jun-16              |
| L2.1.12        | Ed2     | Maintenance of Plastic Buoys   | 1-Jun-16              |
| L2.1.13        | Ed2     | Maintenance of Steel Buoys   | 1-Jun-16              |
| L2.1.12        | Ed2     | Power Sources on Buoys   | 1-Jun-16              |
| L2.6.1 & 2.6.2 | Ed2     | AtoN Service Craft and Buoy Tenders  | 1-Jun-16              |
| L2.7.1 & 2.7.2 | Ed2     | Racon Beacons Maintenance  | 1-Jun-16              |
| L2.9.1 - 2.9.9 | Ed2     | Introduction to Radionavigation and DGNSS  | 1-Jun-16              |
| L2.1.9         | Ed2     | Introduction to Buoy Positions   | 1-Jun-16              |
| L2.1.14        | Ed2     | An introduction to shore marks   | 1-Jun-17              |
| L2.3.1 – 3     | Ed2     | Lights and Marine Lanterns   | 1-Dec-16              |
| L2.3.7 –8      | Ed2     | Rotating Beacons and Classic lenses  | 1-Dec-16              |
| L2.3.10        | Ed2     | range, sector and precision direction lights   | 1-Dec-16              |
| L2.4.1 - 2     | Ed2     | Sound Signals  | 1-Dec-16              |
| L2.5.1 & 2     | Ed2     | Introduction to coatings and specifications; surface preparation                               | 1-Jun-17              |
| L2.8.1         | Ed2     | AIS AtoN Operations  | 1-Dec-17              |
| L2.3.1 - 3     | Ed1     | Introduction to Marine Signal Lanterns   | 31-May-13             |
| L2.3.4 - 6     | Ed2     | Light Flashers Lamp changers and IPS lanterns  | 1-Dec-16              |
| L2.3.1 - 3     | Ed2     | Introduction to Marine Lanterns  | 31-May-13             |
| L2.11.1 - 5    | Ed2     | Marine Aids to Navigation Structures: Materials, Corrosion and Protection                      | 1-Dec-17              |
| L2.11.7        | Ed2     | Maintenance Planning & Records   | 1-Dec-17              |
| L2.11.6        | Ed2     | Preservation of Structures   | 1-Dec-17              |
| L2.10.1 & 2    | Ed2     | Introduction to remote monitoring of AtoN  | 1-Dec-17              |

| Ref.          | Edition | Title  | Date of last revision |
|---------------|---------|--|-----------------------|
| L2:2.7        | Ed2     | Lightning Protection   | 1-Jun-17              |
| L2.2.5 & 6    | Ed2     | Mains AC Utility Power Systems; Diesel and Petrol Generators | 1-Jun-17              |
| L2.1.5- 2.1.6 | Ed2     | Buoy Handling and Safe Working Practices                     | 1-Jun-16              |
| L2.2.4        | Ed2     | Wind Generators  | 1-Jun-17              |
| L2.0          | Ed3     | Technician Training Level 2 – Model Course Overview          | 1-Jun-16              |
| L2.2          | Ed1     | Primary and Secondary Battery Maintenance                    | 15-Dec-14             |
| L2.2.3        | Ed1     | Photovoltaic (Solar panel) systems and maintenance           | 15-Dec-14             |
| L2.2.1        | Ed1     | DC Power Systems   | 15-Dec-14             |
| L2.1.7        | Ed1     | Buoy Moorings  | 15-Dec-14             |

## b. VTS

| Ref.    | Edition | Title  | Date of last revision |
|---------|---------|--|-----------------------|
| V-103/1 | Ed2     | Model Course – VTS Operators Basic Training                                    | 1-Dec-09              |
| V-103/2 | Ed2     | Model Course – Vessel Traffic Services Supervisor - Advancement Training       | 1-Dec-09              |
| V-103/3 | Ed2     | Model Course – VTS On the Job Training (VTS Operator and VTS Supervisor)       | 1-Dec-09              |
| V-103/4 | Ed2     | Model Course – Vessel Traffic Services - On the Job Training Instructor        | 1-Dec-09              |
| V-103/5 | Ed 1    | Model Course- The revalidation process for VTS Qualification and Certification | 1-Jun-16              |