NAVGUIDE 2022 publication plan

# **Introduction**

The NAVGUIDE has been a signature document and information source for IALA members and Marine Aids to Navigation (AtoN) users for many years. The guide plays an important role within the IALA information suite and is regarded as a primary source of information for AtoN managers and practitioners along with the IALA Standards, Recommendations, Guidelines, Manuals and other publications.

Following its decision to transfer the organizing role of the publication from ARM to the Secretariat from 2018, the Secretariat has prepared this document with the intention of helping the writers of the NAVGUIDE 2022.

The purpose of this plan is to define the detailed ground rule, contents, format, structure and time frames for the harmonized and balanced outcome.

# **NAVGUIDE Coordinators**

Each Committees designated the coordinators for revision of NAVGUIDE as following;

|  |  |  |
| --- | --- | --- |
| Committee | Name | Email |
| VTS | Jillian Carson Jackson, Nautical Institute | [jillian@jcjconsulting.net](mailto:jillian@jcjconsulting.net) |
| ENG | Robert Dale, Trinity House | [Rob.dale@thls.org](mailto:Rob.dale@thls.org) |
| ARM | Natasha McMahon, Canadian Coastguard | natasha.mcmahon@dfo-mpo.gc.ca |
| ENAV | Mahesh Alimchandani | mahesh.alimchandani@amsa.gov.au |

Contact point in Secretariat is Minsu Jeon, minsu.jeon@iala-aism.org

# **The ground rule for coordinators**

NAVGUIDE’s aim is to advance and disseminate knowledge in all the related areas of AtoN. For this purpose, the ground rules are defined as follows:

* The writers have the discretion to decide the contents of the chapter in close cooperation with the Committee.
* The 2022 NAVGUIDE will be an update of the current version.
* Avoid duplication of the recommendations and guidelines.
* One sub-chapter should not exceed 5 pages.
* Definitions of defined terms should refer to the IALA dictionary.
* All references mentioned in the reference notes are cited in the text, and vice versa

# **Structure and format of the contents**

**4.1 Structure**

The current NAVGUIDE has 8 chapters, and since IALA General Assembly adopted new IALA Standards in 2018, the new version NAVGUIDE will follow the structure of the 7 Standards subjects and 36 topic areas.

|  |  |
| --- | --- |
| Current | Revised version |
| 1. Introduction to IALA-AISM 2. Concepts and accuracy of navigation 3. Marine Aids to Navigation 4. e-Navigation 5. Vessel Traffic Services 6. Other services and facilities 7. Power supplies 8. Provision, design and management | 1. Introduction to IALA-AISM 2. Concepts and accuracy of navigation 3. AtoN planning and service requirements 4. AtoN design and delivery 5. Radionavigation services 6. Vessel Traffic Services 7. Training and certification 8. Digital communication technologies 9. Information services 10. Other services and facilities |

**4.2 Format**

There are no strict formatting requirements, but minimum use of style is recommended for compilation. Ensure the figures and the tables included in the single files are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

# **Time frame**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | ½ 2019 | 2/2 2019 | ½ 2020 | 2/2 2020 | ½ 2021 | 2/2 2021 | ½ 2022 |
| 1. Assigning coordinator and authors | Committees |  |  |  |  |  |  |  |
| 1. Writing | Committees |  |  |  |  |  |  |  |
| 1. Finalize and review the draft | Committees |  |  |  |  |  |  |  |
| 1. Council approval | Secretariat |  |  |  |  |  |  |  |
| 1. Compilation and design | Secretariat |  |  |  |  |  |  |  |
| 1. Publishing and printing | Secretariat |  |  |  |  |  |  |  |

# **Action requested**

PAP to revise and task respective groups with questions.

Ask Secretariat on possible support. Example – proper editing of the document

[Annex 1] the draft table of contents

| **SECTION** | **Chapters** | **Committee** | **Author** | **Level of effort**  **(minimal, moderate & significant)** | **Lead** | **Comments** | **Completion status**  **(started, in progress, complete)** |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Chapter 1 - Introduction to IALA-AISM** | |  |  |  |  |  |  |  |
| 1.1 | Purpose and Scope | Secretariat |  |  |  |  |  |  |
| 1.2 | Background | Secretariat |  |  |  |  |  |  |
| 1.3 | Membership | Secretariat |  |  |  |  |  |  |
| 1.4 | General Assembly | Secretariat |  |  |  |  |  |  |
| 1.5 | The Council | Secretariat |  |  |  |  |  |  |
| 1.6 | Policy Advisory Panel | Secretariat |  |  |  |  |  |  |
| 1.7 | Legal Advisory Panel | Secretariat |  |  |  |  |  |  |
| 1.8 | Committees | Secretariat |  |  |  |  |  |  |
| 1.9 | IALA World Wide Academy | Secretariat |  |  |  |  |  |  |
| 1.10 | IALA Model Courses and the IALA Accreditation Scheme | Secretariat |  |  |  |  |  |  |
| 1.11 | Conferences, Symposia and Exhibitions | Secretariat |  |  |  |  |  |  |
| 1.12 | Workshops and Seminars | Secretariat |  |  |  |  |  |  |
| 1.13 | IALA Publications | Secretariat |  |  |  |  |  |  |
| 1.14 | Related Organizations | Secretariat |  |  |  |  |  |  |
| **Chapter 2 - Concepts and Accuracy of Navigation** | |  |  |  |  | Comments |  |  |
| 2.1 | Navigational Methods | ARM | WG 1 | moderate |  | Verify IMO resolution  p. 12 RADIONAVIGATION suggest Electronic navigation  review the principal methods |  |  |
| 2.2 | Accuracy Standards for Navigation | ARM | WG 1 | minimal |  | Verify IMO resolution |  |  |
| 2.3 | Phases of Navigation | ARM | WG 1 | minimal |  | IHO verification – eec will be the same but states will be recognize to have 350 nm from the coast |  |  |
| 2.3.1 | Ocean Navigation | ARM | WG 1 | minimal |  |  |  |  |
| 2.3.2 | Coastal Navigation | ARM | WG 1 | minimal |  |  |  |  |
| 2.3.3 | Harbour Approach | ARM | WG 1 | moderate |  | Just say DGNSS instead of GPS & DGPS |  |  |
| 2.3.4 | Restricted Waters | ARM | WG 1 | minimal |  | Just say DGNSS instead of GPS & DGPS |  |  |
| 2.4 | Measurement Errors and Accuracy | ARM | WG 1 | minimal |  |  |  |  |
| 2.4.1 | Measurement Error | ARM | WG 1 | minimal |  |  |  |  |
| 2.4.2 | Accuracy | ARM | WG 1 | minimal |  |  |  |  |
| 2.5 | Hydrographic consideration | ARM | WG 1 | moderate |  |  |  |  |
| 2.5.1 | Charts | ARM | WG 1 | Moderate - significant |  | Many countries removing paper from carriage requirements when referring to charts |  |  |
| 2.5.2 | Datum | ARM | WG 1 | Moderate |  | Even though 84 is going, many countries will take a long time. Still many countries still have their own datum and many paper charts that may not be in proper datum  Replace GPS with GNSS |  |  |
| 2.5.3 | Accuracy of Charts | ARM | WG 1 | Moderate |  | In going to ENC some countries may go to fewer scales  Change Zones of confidence (ZOC) p20 |  |  |
| 2.5.4 | Charted Buoy Positions | ARM | WG 1 | Significant |  | Verify IMO Resolution  Earth without capitals (p. 21)  ZOC abbreviation seems to be an issue in multiple nationalities  Just explain that it is an accuracy rating guide for charts |  |  |
| **Chapter 3 – AtoN planning and service requirements**  **Marine Aids to Navigation**  **Change title to :**  **Visual and other physical Marine aids to navigation** | |  |  |  |  |  |  | Proper section in guide |
| 3.1 | Obligation and regulatory compliance  3.1 Operational requirements | ARM | WG 1 | Minimal |  | Change – chapter 4 of this naviguide instead of “the" |  |  |
| 8.1 | International Criteria | ARM | WG 1 | ? |  |  |  |  |
| 3.2 | AtoN planning  3.2 visual and audible marine aids to navigation design theory | ARM | WG 1 | significant |  | Replace conspicuous with distinctive p21  Remove traffic signals? Maybe p.24  Indicating information on tides to mariners  Stick to definition of using aids to verify position  Marking bridges?  Example of audible – fog horn p24 (visibility conditions)  \*Be conscious of words used in many IALA documents should be possible to translate in many languages?  When will we move to the six UN languages and what documents will be included?  \*verify IALA recommendations and guidelines? Are we only referring to normative?  \*consistency in the use of AtoN, sometimes marine aids to navigation, aids to navigation…  \*Clear how we use various words:  Marks –  Visual marks –  Aids to navigation –  Navigational aids -  In the beginning of the document  Properly  Start with dictionary |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 3.2.1 | Visual Perception | ENG & ARM WG 1 |  |  |  | Dr. Tansley??? Ask Jordan.  Verify \*recommendation R0201  \*verify International commission on illumination (CIE) standard S004/E 2001 |  |  |
| 3.2.1.2 | Meteorological visibility | ? |  |  |  | Why is this here? And who defines it?  Could it be titled just visibility? What other types of visibility?  \*pictures? Verify, confirm, new…  \*define international meterological authority?  \*visibility related to pollution? Smog? In Navguide, update guidelines and ask WG3 about including in risk analysis? |  |  |
| 3.2.1.6 | Use of binoculars |  |  |  |  | Could be renamed:  Visibility with binoculars  Include can also use binoculars at night (night vision goggles, NVG) |  |  |
| 3.2.1.7 | Geographical range |  |  |  |  |  |  |  |
| 3.2.2 | Daymarks | ENG |  |  |  | Day boards, day signals…  could be any other object like a tree, this has to do with how we define things…. |  |  |
| 3.2.2.1 | Visibility of a mark | ENG |  |  |  |  |  |  |
| 3.2.2.2 | Range of a visual mark | ENG |  |  |  |  |  |  |
| 3.2.3 | Lights | ENG |  |  |  | Update with LED? Challenges ? |  |  |
| 3.2.3.1 | PHOTOMETRY | ENG |  |  |  |  |  |  |
| 3.2.3.2 | Rhythms and characters | ENG |  |  |  | \*VERIFY RECOMMENDATIONS IN TEXT |  |  |
| 3.2.3.3 | Background lighting | Eng |  |  |  | Design feature – consideration – verify final text |  |  |
| 3.2.3.4 | Glare | Eng |  |  |  | Design feature – consideration – verify final text |  |  |
| 3.2.3.8 | Meteorlogical optical range |  |  |  |  |  |  |  |
| 3.2.4 | Miscellaneous | ENG |  |  |  | Conspicuity  Suggest changing the title |  |  |
| 3.2.4.1 | Audible signals |  |  |  |  | p. 47 examples of audible could be added to beginning of doc as more examples then horns |  |  |
| 3.2.4.2 | Illumination of structures |  |  |  |  | Sweden- lighted aid and illuminate daymarks - safer  Heritage lighthouse  Guideline 1061  MBS aligned  Not reflected outward |  |  |
|  |  | ARM | WG 2 | moderate |  |  |  |  |
| 3.3 | Visual Aids to Navigation Technology | ENG |  |  |  | Perhaps indicate that LED have some limitations, frequency disruption and visibility  Probably for the guideline or recommendation and update with reference |  |  |
| 3.3.1 | DAYMARKS | ENG |  |  |  | Refers to day board in the first sentence, be consistent with wording |  |  |
| 3.3.2 | Light sources | ENG |  |  |  | Illuminating structures  Example: heritage lighthouses that would not interfere with other systems in the area, can eng propose some wording? Is it here or refer to guideline / recommendation |  |  |
| 3.3.3 | Integrated power supply |  |  |  |  |  |  |  |
| 3.4 | Maritime Buoyage System (MBS)  For consultation with wider group:  For example the NAVGUIDE speaks about the MBS, it then describes only some of the marks not all. We suggest that information remains in only one official source, therefore for marks the mbs. Should the NAVGUIDE provide a brief overview of every single mark or should information be removed and refer to the MBS and recommendation/guideline? | ARM | Wg1 | significant |  | Support MBS group title change  Update wording in text if changed in MBS  Update with similar wording (example removal of “In 2020…”  LINE UP with MBS  Significant reference to EWMB  Refer to MBS recommendation 1001 (normative)  Why only response plan guideline?  Do we have 7 marks now?  Change Emergency wreck marking Buoy with just Emergency wreck mark  Talk about the MBS and how to use  IALA needs to create a document with clear updating and reference to guidelines, standards and recommendations |  |  |
| 3.4.1` | Marking new dangers |  |  |  |  | Change title to Emergency wreck Mark  Update wording to clearly describe the temporary nature of it  For all of the marks – describe or remove  Or minor description and refer to MBS |  |  |
| 3.4.1 | Lateral Marking System | ENG |  |  |  |  |  |  |
| 3.4.2.1 | Leading lines |  |  |  |  | Needs review  In Purpose of leading line (7) what does this mean? End of chapter 3 there are the notes (p.62) |  |  |
| 3.4.2.2 | Sector lights |  |  |  |  | Review  Pictograms updated |  |  |
| 3.4.2.3 | Fixed marine aids to navigation – lighthouses and beacons |  |  |  |  | Review text  Ensure consistency of Lighthouse or lighthouse  \*if we remove text where does it go? |  |  |
| 3.4.2.4 | Floating marine aids to navigation – major & minor |  |  |  |  | Reviewed  Verify reference to recommendation  Validate photos  Paragraph on performance – remove and refer to proper section |  |  |
|  | Technical considerations for floating …  Design…  Moorings  Markings and topmarks |  |  |  |  | Could add “Operative” to the title  Refers to “Aid” ensure consistency  Verify references  Review text  Talks about markings, could be confusing, should consider using  identification/ signs  \*mooring design : anchor/sinker  mooring system  position of the anchor/sinker  \*positioning of buoy –  Should be about accuracy and not prescriptive in DGNSS, could say that it is the most common  Either AtoN or marine aids to navigation |  |  |
| 3.4.2 | Cardinal Marking System | ENG |  |  |  |  |  |  |
| 3.4.3 | Isolated Danger Marks | ENG |  |  |  |  |  |  |
| 3.4.4 | Safe Water Marks | ENG |  |  |  |  |  |  |
| 3.4.5 | Special Marks | ENG |  |  |  |  |  |  |
| 3.4.1 | Marking new dangers | ENG |  |  |  |  |  |  |
| 3.4.6 | Emergency Wreck Marking Buoy | ENG |  |  |  |  |  |  |
| 3.4.7 | Other Marks | ENG |  |  |  |  |  |  |
| 3.4 | Level of service | ARM | WG 1 | Moderate |  |  |  |  |
| 8.2 | Level of Service | ARM | WG 1 | Moderate |  |  |  |  |
| 8.4 | Availability Objectives | ARM | WG 1 | Moderate |  |  |  |  |
| 3.5 | Risk management | ARM | WG 3 | Moderate |  |  |  |  |
| 8.3 | Risk Management | ARM | WG 3 | Moderate |  |  |  |  |
| 3.6 | Quality management | ARM | WG 1 | Minimal |  |  |  |  |
| 8.5 | Reviews and Planning | ARM | WG 1 | Minimal |  |  |  |  |
| 8.6 | Quality Management | ARM | WG 1 | Minimal |  |  |  |  |
| 8.7 | Maintenance | ARM | WG 1 | Minimal |  |  |  |  |
| 8.8 | Service Delivery | ARM | WG 1 | moderate |  |  |  |  |
| **Chapter 4 – AtoN design and delivery** | |  |  |  |  |  |  |  |
| 4.1 | Visual signaling | ARM | WG 1 | Minimal |  |  |  |  |
| 4.2 | Range and performance | ARM | WG 1 | Minimal |  |  |  |  |
| 4.3 | Design, implementation and maintenance | ARM | WG 1 | Minimal |  |  |  |  |
| 4.4 | Power systems | ARM | WG 1 | ENG? |  |  |  |  |
| 7.1 | Types | ENG |  |  |  |  |  |  |
| 7.2 | Electric - Renewable Energy Sources | ENG |  |  |  |  |  |  |
| 7.3 | Rechargeable Batteries | ENG |  |  |  |  |  |  |
| 7.4 | Electrical Loads and Lightning Protection | ENG |  |  |  |  |  |  |
| 7.5 | Non-Electric Energy Sources | ENG |  |  |  |  |  |  |
| 4.5 | Floating AtoN | ARM | WG 1 | Minimal |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 4.6 | Environment and sustainability | ARM | WG 1 | ENG? |  |  |  |  |
| 8.9 | Environment | ENG |  |  |  |  |  |  |
| 4.7 | Heritage and legacy | ARM | WG 1 | Minimal |  |  |  |  |
| 8.10 | Preservation of Historic Marine Aids to Navigation | ENG |  |  |  |  |  |  |
| **Chapter 5 – Radionavigation services** | | | |  |  |  |  |  |
| 5.1 | Satellite positioning and timing |  |  | ? |  |  |  |  |
| 5.2 | Terrestrial radio positioning and timing |  |  | ? |  |  |  |  |
| 5.3 | RACON and radar positioning |  |  | Minimal |  |  |  |  |
| 5.4 | Augmentation services including SBAS and GBAS |  |  | ? |  |  |  |  |
| **Chapter 6 - Vessel Traffic Services** | |  |  |  |  |  |  |  |
| 6.1 | VTS implementation | VTS |  |  |  |  |  |  |
| 6.2 | VTS operations | VTS |  |  |  |  |  |  |
| 6.3 | VTS data and information management | VTS |  |  |  |  |  |  |
| 6.4 | VTS communications | VTS |  |  |  |  |  |  |
| 6.5 | VTS technologies | VTS |  |  |  |  |  |  |
| 6.6 | VTS auditing and assesing | VTS |  |  |  |  |  |  |
| 6.7 | VTS additional services | VTS |  |  |  |  |  |  |
| 5.1 | Introduction | VTS |  |  |  |  |  |  |
| 5.2 | Purpose | VTS |  |  |  |  |  |  |
| 5.3 | Definition | VTS |  |  |  |  |  |  |
| 5.4 | IALA VTS Manual | VTS |  |  |  |  |  |  |
| 5.5 | Objectives | VTS |  |  |  |  |  |  |
| 5.6 | Functions | VTS |  |  |  |  |  |  |
| 5.7 | Types of Service in VTS | VTS |  |  |  |  |  |  |
| 5.8 | Surveillance Requirements | VTS |  |  |  |  |  |  |
| 5.9 | Equipment Requirements | VTS |  |  |  |  |  |  |
| 5.10 | Personnel | VTS |  |  |  |  |  |  |
| 5.11 | Promulgation of information | VTS |  |  |  |  |  |  |
| 5.12 | Summary | VTS |  |  |  |  |  |  |
| **Chapter 7 – Training and certification** | |  |  |  |  |  |  |  |
| 7.1 | Training and assessment | ARM | WG 3 |  | WWA |  |  |  |
| 7.2 | Competency certification and revalidation | ARM | WG 3 |  | WWA |  |  |  |
| 7.3 | Simulation in training | ARM | WG 3 |  | WWA |  |  |  |
| 7.4 | Human factors and ergonomics | ARM | WG 3 |  | WWA |  |  |  |
| 8.11 | Human Resources Challenges |  | ? |  | WWA |  |  |  |
| 7.5 | Capacity building | ARM | WG 3 |  | WWA |  |  |  |
| 7.6 | Model courses | ARM | WG 3 |  | WWA |  |  |  |
| **Chapter 8 – Digital communication technologies** | |  |  |  |  |  |  |  |
| 8.1 | Wide/medium bandwith systems | ENG |  |  |  |  |  |  |
| 8.2 | Narrow bandwidth systems | ENG |  |  |  |  |  |  |
| 8.3 | Harmonized maritime connectivity | ARM | WG 2 |  |  |  |  |  |
| **Chapter 9 – information serivices** | | |  |  |  |  |  |  |
| 9.1 | Data models and data encoding | ARM | WG 2 |  |  |  |  |  |
| 9.2 | Data exchange systems | ARM | WG 2 |  |  |  |  |  |
| 9.3 | Terminology symbology and portrayal | ARM | WG 2 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Chapter 10 – other services** | | | |  |  |  |  |  |
| 6.1 | Pilotage | ARM | WG 1 | Minimal – moderate |  |  |  |  |
| 6.2 | Ships Routeing | ARM | WG 1 | ? |  |  |  |  |
| 6.3 | Minimum Comprehensive Mix of AtoN for Channels and Waterways | ARM | WG 1 | Minimal – moderate |  |  |  |  |
| 6.4 | The Marking of Man-Made Offshore Structures | ARM | WG 1 | Moderate |  |  |  |  |
| 6.5 | Nautical Publications | ARM | WG 1 | Significant |  |  |  |  |
| 6.6 | Tide Gauges and Current Meters | ARM | WG 1 & 2 | Minimal |  |  |  |  |
| 6.7 | Under Keel Clearance Management Systems | ARM | WG 1 & 2 | Moderate |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 4.1 | Introduction | ENAV |  |  |  |  |  |  |
| 4.2 | Background | ENAV |  |  |  |  |  |  |
| 4.3 | IMO's strategy for the development and implementation of e-navigation | ENAV |  |  |  |  |  |  |
| 4.4 | IALA's Role | ENAV |  |  |  |  |  |  |
| 4.5 | Maritime Service Portfolios | ENAV |  |  |  |  |  |  |
| 4.6 | Maritime Digital Infrastructure | ENAV |  |  |  |  |  |  |
| 4.7 | Communications | ENAV |  |  |  |  |  |  |
| 4.8 | Positioning, Navigation and Timing | ENAV |  |  |  |  |  |  |
| 4.9 | Testbeds | ENAV |  |  |  |  |  |  |