

**Report of the 14th Meeting of the e-Navigation Committee**

**23-27 September, 2013**

**Executive Summary**

* 96 people from 27 countries and 7 sister organisations, attended this meeting of the e-NAV Committee, of which 18 members were new and 7 were observers;
* The Committee considered 94 input papers;
* 28 output papers were produced including:
* 2 draft Recommendations
* 6 draft Guideline;
* e-Navigation Architecture FAQ;
* 2 workplan reviews
* NAVGUIDE updates
* 2 workshop inputs for the Polar AtoN services workshop in Greenland
* 1 WWA model course
* 8 Liaison notes, including 1 to the IMO CG on e-Navigation, and 2 to the PAP.
* The new IT and AV system worked well and supported the Committee’s ability to work;
* There was a vigorous debate and significant editing of the proposed input to the IMO e-Nav Strategy Implementation Plan. In the end the Committee was unable to allow the document to go forward to the IMO Correspondence Group;
* The 2010 – 2014 e-NAV Committee work plan was reviewed and the work completed and deferred was identified;
* The 2014 - 2018 e-NAV Committee work plan was updated;
* Review of the e-NAV sections of the NAVGUIDE was completed;
* Polar PNT and Communications input was developed and forwarded to the IALA Workshop on the Challenges of Providing AtoN Services in Polar Regions;
* Good progress was made with developing VHF Data Exchange VDES (VDES), IALA S-100 Product Specifications and the e-Navigation testbeds

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| e-NAV Committee  14th Session | 27 September, 2013 |

Report of the 14th Session of the IALA e-NAV Committee

# General

The 14th meeting of the **e-Navigation Committee** was held from 23 – 27 September, 2013 at IALA, with Bill Cairns as Chairman and Nick Ward as Vice-Chairman. The Secretary for the meeting was Seamus Doyle.

**Opening**

# opening

## Safety & Administration

Virginia Butler provided a Safety and Administrative brief. Attention was drawn to the Committee website and ftp ialashare working arrangements for documents.

## Approval of the agenda

The agenda (paper e-NAV14-1.2 rev5) was adopted.

## Introductions and apologies

The Chairman introduced the Deputy Secretary-General, who welcomed everyone and then brought the Committee up to date with IALA’s recent activities in the areas of 12 year strategy development, production of the IALA annual report with support from AMSA and the consideration of IALA moving from French charitable status to an international organisation status. He noted that a new WiFi system and web site for document management have been installed to aid the Committee’s efficient working. He welcomed Seamus Doyle as the Committee Secretary and acknowledged the immense contribution to IALA made by Mike Hadley, who has recently retired. Appreciating that this is the last meeting of the work period, he wished the members a successful meeting.

Bill Cairns then added his welcome to both newcomers and those returning to IALA.

## Programme for the week

Paper e-NAV14-1.4 rev1 refers.

# Review of Action Items from e-NAV13

Paper e-NAV14-3.2 rev13 refers. It was noted that the action items from e-NAV13, for the IALA Secretariat and Committee Members, were mostly complete. It was noted that there are follow-on actions in relation to the Navguide update and VDES following the Brest workshop.

# Review of input papers

The input papers for each Working Group (WG) were reviewed (e-NAV14-3.2 rev13). It was noted that e-NAV13.3.1 is superseded by e-NAV14-13.3.4. It was noted that all input papers were available on the IALA website.

The Chairs of Working Groups (WG) outlined their expectations for the meeting.

# Reports from other bodies

## IALA Council 55th session

The report (e-NAV14-4.1) was noted, in particular:

* Section 9.4 of the report showing the response of Council to e-Navigation.
* Developments in relation to the Maritime Co-operation Forum. A decision is anticipated in week 40.

## Report of PAP25

The Committee noted the report (e-NAV14-4.2) with specific attention to the executive summary. It was noted that all e-NAV Committee documents were approved.

## Report of MSC92

Papers e-NAV14-4.3.1, e-NAV14-4.3.2, e-NAV14-4.3.3 refer. The Committee particularly noted:

* Under the revised sub-committee structure, IMO NAV will amalgamate with ‘Radio Communications and Search and Rescue’ (formerly COMSAR) to form a new sub-committee Navigation, Communications, Search and Rescue (NCSR) which will hold its first meeting (NCSR1) from 30 June through 4 July 2014.
* The establishment of working groups (WG1 Routeing of Ships, Ship Reporting and Related Matters, WG2 (Technical) Navigational Aids and Related Matters) and two drafting groups for NCSR.
* IMO Secretary General plan for completion of an e-Nav Strategy Implementation Plan (SIP) is expected by December 2014.
* IALA should continue to progress its contributions to the SIP and e-navigation.
* The IMO Secretary General will advocate a new approach to a sustainable maritime traffic system taking account of the whole logistic chain. This will require cooperation between stakeholders, including IALA.

## Report of IMO NAV59

The report (e-NAV14-4.14) was noted, in particular the progress of e-Navigation and support for resilient PNT during the discussion.

# reports from rapporteurs

## Report of VTS37

The liaison note report on the 37th session of the VTS Committee (Paper e-NAV13-4.5) was noted.

# Presentations

Three presentations were made during the meeting, all during the opening plenary session. The presentations form part of the input to the meeting.

## World-Wide Academy (WWA) update

The presentation was made by Stephen Bennett, Programme Manager for the IALA WWA and is shown as paper e-NAV14-6.1.

The objective of the WWA to improve capacity building in 78 states in 7 regions was reiterated. Good progress has been made and it is anticipated that preparation of model courses will be complete by May 2014. The preparation of all Level 2 model courses for technicians will be complete by December 2013. A new model course on an introduction to e-navigation is expected as an output from e-Nav14. An appeal was made for WWA experts in e-Navigation, particularly those with English/Spanish or English/French language skills.

## E-Navigation Infrastructure Requirements

The presentation was made by Fred Pot, MARSEC-XL USA, LLC and is shown as paper e-NAV14-6.2.

The point of the presentation was to expand the view of a Common Shore-based System (CSS) beyond the components that are spelled out in the Common Shore-based System Architecture (CSSA) to include all components, i.e. to include the computing environment/platform. In doing so and by translating the general requirements categories that have already been spelled out for CSSA into more specific requirements, it becomes clear that, to fulfil them, the computing platform needs to include layers that will insulate CSSA applications and application services from the platform they run on. He suggested that if a CSS were to be compliant not only with CSSA but also with the open source Maritime Reference System Architecture (MARRSA), then an eco-system would be created for application developers that will lower the cost and increase the quality of a CSS.

## The Maritime Cloud

The presentation was made by Ole Borup, DMA and is shown as paper e-NAV14-6.3.

The presentation was on a proposed technical infrastructure to support seamless information transfer in e-navigation called the Maritime Cloud. The infrastructure consists of three key components, comprising firstly communication by a new geo-aware messaging protocol on top of the Internet called geo-messaging, secondly a Maritime Identity Registry where all maritime actors can obtain a maritime ID and a digital certificate that will allow them to communicate securely using a public-key infrastructure, thirdly a Maritime Service Portfolio Registry where provided services are registered and can be located. An offline version of the two registries, called the Almanac, can be carried onboard vessels for offline use of the identity and service concepts. The infrastructure will be progressed in the ACCSEAS project where it will serve as the testbed infrastructure.

# Establish Working Groups

Six working groups were established, as outlined below:

|  |  |  |
| --- | --- | --- |
| Working Group | Working Group Chair | Working Group Vice Chair |
| WG 1 Operations and Strategy | David Patraiko |  |
| WG 2 PNT / Sensors | Alan Grant | Michael Hoppe |
| WG 3&4 AIS & Communications | Rolf Zetterberg | Bill Kautz |
| WG 5 Technical Architecture | Jan-Hendrik Oltmann | Paul Mueller |
| WG6 Data Modelling | Peter Hooijmans | Jarle Hauge |
| WG7 Testbeds | Mahesh Alimchandani | Andre Chateauvert |

It was agreed that when the Committee was not in plenary session the Working Groups would meet separately, throughout the week.

# Working Group 1 – Operations

## Monitor and co-ordinate input on Strategy & Operations to the IMO process (Task1\*)

The Committee reviewed IALA existing contributions to e-Navigation and on-going work that might be relevant and useful to the IMO as they seek to finalise the e-Navigation Strategic Implementation Plan (SIP). The group was cognisant that due to 2014 being a Conference year, the e-Navigation committee would not get another chance to comment on the SIP before it was submitted for approval by the IMO NCSR1 Sub-committee. Issues considered of relevance included Guidelines, Recommendations, work under development, comments on responsibilities and relationships, and strategic review processes.

Action Item

David Patraiko was requested to co-ordinate a correspondence group (e-NAV14-17.2.1.5) to contribute to the SIP discussion by correspondence and submit results to e-NAV15.

The IALA Secretariat is requested to forward the comments relating to the SIP (e-NAV14-17.2.1.5) to e-NAV15 as a Working Paper.

## Review and update IALA Strategy for e-Navigation (Task 2\*)

The IALA e-Navigation Roadmap (e-NAV14-8.10.1) was reviewed and updated to take into account changes to the IMO meeting schedule and finalised (e-NAV14-17.1.1.2).

Action Item

The IALA Secretariat is requested to forward the liaison note (e-NAV14-17.1.1.4) and the revised Roadmap (e-NAV14-17.1.1.2) to the IMO CG following amendment in relation to e-NAV14-17.2.1.5.

The WG reviewed the current e-NAV Committee Work Programme (e-NAV14-15) in order to make recommendations for the future 2014-2018 plan. It was agreed that the current 4 tasks would still be relevant in the future and further suggested two additional items, that of monitoring the work in e-Navigation on Human Centered Design (HCD) and Usability, and that of Software Quality Assurance (SQA). The Committee concluded that issues of HCD and Usability could be handled by a ‘Operations Working Group’ however the issue of SQA would need to cover all aspects of IALA work and therefore would need further consideration by PAP. These comments were passed to the Committee Vice-Chair for consideration.

Action Item

*No further action needed.*

## Maintain and update user requirements (in co-ordination with the VTS Committee) (Task 3\*)

This task is complete.

## Monitor developments in navigation for polar regions (Task 4\*)

e-Navigation information on communications and PNT was provided by the Committee to the polar workshop for inclusion in the “Guideline on the Challenges of Providing AtoN Services in Polar Regions”.

## Prepare Recommendations and guidelines on Maritime Information Systems (in co-ordination with the VTS Committee) (Task 25\*)

This task was completed at e-NAV9.

## Prepare Recommendations and guidelines on the portrayal of information (Task 26\*)

The Committee considered input document (e-NAV14-8.6.3) “Draft IALA Guidelines on harmonised Portrayal of e-Navigation Information” along with liaison input from the VTS Committee and WG5 and finalised this work in the form of “Shore-side portrayal ensuring harmonisation with e-Navigation related information” (e-NAV14-17.1.1.1).

The Committee noted that the template for submitting new proposals to test beds and portrayal examples for inclusion in the IALA e-Navigation Portal is not published on the IALA e-Navigation Portal. A liaison note to the Portal Webmaster was prepared (e-NAV14-17.1.1.6)

Action Items

The IALA Secretariat is requested to finalise the editorial instructions and forward e-NAV14-17.1.1.1 to Council for approval.

The IALA Secretariat is further requested to contact the webmaster of the website ([www.e-Navigation.net](http://www.e-Navigation.net)) with a request to post the latest version of the “template for submission of examples of portrayal” (as referenced in document e-NAV14-1.1.1. Annex A).

The IALA Secretariat is requested to forward the liaison note re the template for submitting new proposals to test beds and portrayal examples for inclusion in the IALA e-Navigation Portal (e-NAV14-17.1.1.6) to the Portal Webmaster.

Michael Bergman is requested to develop introductory test and explanatory notes on the topic of portrayal of information and forward this to Thomas Poranthe, webmaster of [www.e-Navigation](http://www.e-Navigation).net.

## Monitor developments in ECDIS, INS, and ENCs (Task 27\*)

This task was not addressed at e-NAV14.

## Monitor the activities of the Competent Pilotage Authority Forum (CPAF) (Task 33\*)

This task was not addressed at e-NAV14.

## Update the IALA Frequently Asked Questions (FAQs) (Task 33\*)

The FAQs (e-NAV14-12.2.14) were reviewed along with specific requests by Council 55 (para 9.4.1.4), revised and updated (e-NAV14-17.1.1.3).

Action Items

The Secretariat is requested to replace the existing FAQs on the website with (e-NAV14-17.1.1.3) and also submit them to the IALA Bulletin for consideration.

# Working Group 2 – PNT (WG2)

## Review and update the World Wide Radio Navigation Plan (Task 5\*)

This task is complete and no further work was considered at this meeting.

## Prepare Recommendations and Guidelines on PNT systems and radar AtoN (Task 6\*)

WG2 prepared an updated version of R-121 On the Performance and Monitoring of DGNSS Services in the Frequency Band 283.5 – 325 kHz (e-NAV14-17.2.2.1)

Action Items

The IALA Secretariat is requested to include the working paper R-121 Draft 4 eNAV14 WG2 Review v2 (e-NAV14-17.2.2.1) as an input paper to e-NAV 15.

Committee members are requested to consider the content of the draft R-121 Draft 4 eNAV14 WG2 Review v2 (e-NAV14-17.2.2.1) and to provide feedback to the WG2 Vice Chair Michael Hoppe ([Michael.Hoppe@wsv.bund.de](mailto:Michael.Hoppe@wsv.bund.de)) by the end of January 2014.

Amendments to the NAVGUIDE have been provided to the Vice-Chair for inclusion in the review document.

## Co-ordinate input to IMO, ITU, and IEC on PNT systems (Task 7\*)

An update on the September RTCM SC104 committee meeting was noted. WG2 members were requested to review the draft updated to RTCM broadcast standard 2.4 and RTCM RSIM standard 1.3. RTCM has requested that the content of the draft standards is not released outside of the e‑NAV committee.

Action Item

WG2 members are requested to consider the content of the draft broadcast standard version 2.4 and the RSIM standard 1.3 and provide comments to the WG2 Chair by the end of January 2014.

An update on the RTCM SC131 committee meeting was noted.

## Prepare a Guideline on establishment and operation of navigation systems in polar regions (Task 8\*)

The Committee prepared an input on positioning, navigation and timing considerations when establishing aids to navigation in Polar Regions. This work will be provided to the IALA Workshop on the Challenges of Providing AtoN Services in Polar Regions as an input paper, combined with a Communications in Polar Regions paper from WG3&4. A liaison note to the Polar Region Workshop was prepared covering these inputs.

Action Item

The IALA Secretariat is requested to forward Liaison Note (e-NAV14-17.1.2.1) and the two input papers PNT contribution to the Guideline on the Challenges of Providing AtoN Services in Polar regions. (e-NAV14-17.1.2.2) and Draft Guideline on Polar Communications (e-NAV14-17.1.2.3) to the IALA Workshop on the Challenges of Providing AtoN Services in Polar Regions.

## Monitor developments in satellite and terrestrial EPFSs and non-radionavigation systems (Task 9\*)

The Committee commenced development of a new IALA Recommendation on the Performance and Monitoring of eLoran services in the Frequency band 90-110kHz.

Action Item

The IALA Secretariat is requested to forward the working paper (e-NAV14-17.2.2.2) to e-NAV15.

Committee noted the work on the development of e-Pelorus

Committee noted the work of the ACCSEAS project on Resilient PNT.

## Prepare a Guideline on recommended measures for disaster recovery (Task 10\*)

A Liaison note to ANM, EEP and VTS Committees was prepared in reply to received Liaison notes to acknowledge that ANM will lead the development of the IALA Guideline and that all Committees will need to be involved. The Liaison note also provides proposed amended text for the ANM Committee to consider when undertaking this work.

Action Item

The IALA Secretariat is requested to send the Liaison note (e-NAV14-17.1.2.4) to the ANM, EEP and VTS Committees.

## Monitor developments in radar technology and their effect on racons (Task 11\*)

The Committee noted the work of ACCSEAS in demonstrating radar absolute positioning.

## Additional Items

The Committee worked to ensure consistent terminology for marine radiobeacon systems within e-NAV14-17.1.5.1 (CSSA document).

# Working Groups 3 & 4 - AIS & COMMUNICATIONS

The group reviewed all relevant input documents and the main focus of the work was the input to ITU-R WP5B regarding a Preliminary Draft New Recommendation on VDES and a Preliminary Draft New Report on Maritime Radiocommunication Systems and Requirements based on the information in the IALA MRCP. Information papers on the VDES and a Technical Guideline on VDES were finalized.

Presentations were made by

1. Jens Jensen, DMA, who introduced Input Document e-NAV14-10.3.10 describing a software (SW) tool for analysis of AIS coverage based on a comparison between actually received messages and the expected amount of messages from each detected ship in an area. (referring to the report from the EfficienSeaproject <https://dl.dropboxusercontent.com/u/15450746/D_WP5_3_1%20AIS%20Coverage%20Analysis.pdf>
2. The SW is  “open source” and was distributed at the meeting. The SW is also available as open source software on the “git-hub” website <https://github.com/dma-ais/AisAnalysis/wiki/AisCoverage>.
3. Birgit Suhr, DLR, German Aerospace Center, presented the institute briefly and in particular their AIS SAT project which focus on reception of AIS-signals from high density areas. The experimental satellite will be equipped with a Helix antenna and have a footprint of 750 km. The launch is expected in Q4 2013.

The AIS and Communications WG plan for an intersessional meeting before e-NAV15. (Preliminary date is March 31 – April 4 2014) The main topic is to mature and refine already existing documents, develop further inputs to ITU WP5B with the purpose to support the request for allocation of additional spectrum, by presenting the developments made and indicate the planned further work to test technology and applications to be used. It is important to provide ITU-R WP5B with the latest developments before ITU WP5B finalise the relevant part of the CPM report for WRC 15.

In addition an online discussion forum was established to progress the work until the next e-NAV Committee meeting.

## Review and update documentation on AIS (M.1371; A-124, A-126) (Task 12\*)

The task is completed. No work was carried out at this meeting.

## Co-ordinate input to IMO, ITU, and IEC on AIS (Task 13\*)

A Liaison statement from ITU-R WP5B regarding the agenda items for WRC15, the Draft Revision of ITU-R M.1371-4 and the updated plan for VDES was noted. No actions are required.

A Working Document “Towards a Draft Preliminary ITU-R Recommendation on VDES” based on Input Document e-NAV14-10.3.3 was progressed. The Working Document leaves many technical issues open and indicates that studies and tests are needed before final choices can be made. Although the work is in its initial stage it is proposed to send e-NAV14-17.1.3.4 to ITU WP5B as an indication of the ongoing work and is necessary for ITU-R WP-5B’s work for WRC-15 Agenda Item 1.16.

ITU WP5B has informally asked for access to the information contained in the IALA MRCP, in a format suitable for use within WP5B. The MRCP content has therefore been reformatted to such a format and updated with information on VDES. If approved, the document e-NAV14-17.1.3.5 should be forwarded to ITU WP5B.

A Liaison note to ITU, describing the background and intention with the documents mentioned above, was developed as e-NAV14-17.1.3.3

Action Item

The Secretariat is requested to forward the liaison note e-NAV14-17.1.3.3, e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5, to Council for approval by email.

If approved, the Secretariat is requested to send the liaison and the documents e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5 to ITU WP5B. The deadline for submission to ITU-R WP5B is November 11, 2013.

The Secretariat is requested to arrange an appropriate IALA representation to present the documents e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5 at the WP5B meeting as requested by ITU WP5 B.

## Monitor and contribute to development of AIS, including the next generation of AIS (Task 14\*)

A working document e-NAV14-17.2.3.1 on “The Innovative use of AIS” was progressed. The document is intended to inform IALA members about (data) communication on the AIS system, and to demonstrate the benefits and needs of migrating certain AIS elements to the VDES to ensure that the AIS main functions are protected and maintained with future expansive use of AIS. It also seeks to make recommendations for the innovative use of AIS considering the limitations of the AIS VDL.

Action Item

The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.1 as an input document to e-NAV15.

## Monitor developments in the technical definition of AIS stations at IEC, satellite detection of AIS, and terrestrial long range AIS (Task 15\*)

No progress was made on this task at this meeting.

## Monitor developments in GMDSS and LRIT (Task 21\*)

No progress was made on this task at this meeting.

# Working group 4 - Communications

## Review and update IALA Maritime Radio Communications Plan (Task 17\*)

No progress was made on this task at this meeting.

## Prepare Recommendations and Guidelines on communications (Task 18\*)

Input Document e-NAV14-10.3.4 Technical Guidelines for implementation of VDES was developed as a Working Paper e-NAV14-17.2.3.2. The document is intended to describe the background and the technical considerations that have been made in the development of the VDES concept. The paper presents possible solutions but on several issues alternatives are given, since further studies and tests are required to establish a firm basis for decisions.

Action Item

The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.2 to all IALA Committees for comment.

The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.2 to e-NAV15.

## Co-ordinate input to ITU, IMO, and IEC on communications (Task 19\*)

See Agenda item 9.2

The information paper on VDES (e-NAV14-10.3.2) requested by e-NAV13 has been developed by an IALA Correspondence Group, under leadership of Hideki Noguchi, and was further progressed during the meeting. The document, e-NAV14-17.1.3.1, is intended to inform the Council and Committee members on the plans and progress regarding VDES.

Action Item

The Secretariat is requested to forward the Information Paper e-NAV14-17.1.3.1 to Council for approval.

If approved, the Secretariat is requested send the Information Paper e-NAV14-17.1.3.1 to all IALA Committees.

The Document e-NAV14-17.1.3.6 “Demonstration objectives for VDES” was developed to inform IALA members on the need for studies, test and validation of the VDES concept. It also informs on establishing a correspondence forum with members from IALA e-Navigation committee WG3/4, ITU WP5B, manufacturers and research institutions. The aim of the group is to input ideas and pose questions on possible modulation / encoding schemes, allow peer review and report on the outcome of testing these schemes. In this way a body of knowledge will be built up to support the eventual decision on the final scheme to be used which will input into the VDES technical standard.

Action Item

The Secretariat is requested to forward Information Paper e-NAV14-17.1.3.6 to Council for approval.

Following approval of Council, the Secretariat is requested to send the Information Paper e-NAV14-17.1.3.6 to all IALA Members, CIRM, IEC, and RTCM to encourage participation in the work on the VDES concept.

## Prepare a Guideline on the establishment and operation of communications systems in polar regions (Task 20\*)

The Draft Guideline on Polar Communications was forwarded to the secretariat for use as an input to the upcoming workshop “The Challenges of AtoN Services in Polar Regions”.

## Monitor developments in GMDSS and LRIT (Task 21\*)

No progress was made on this task at this meeting.

# Working Group 5 – Technical Architecture (WG5)

The Architecture Working Group (WG5) worked in accordance with the proposed work plan for the week (e-NAV14-12.1 refers). In particular, the following individual work items were considered:

* Finalize WG5’s NAVGUIDE contribution;
* Prepare WG5 contribution regarding the harmonized user front end/portrayal and its context within the proposed “IALA e-Navigation Stack”;
* Finalize draft new recommendation on the system layout of the Common Shore-based System Architecture (CSSA);
* Progress the understanding of the Maritime Service Portfolios (MSPs);
* Contribution to the creation of the e-Navigation focal point in "7-Pillars" fashion at e-navigation.net (together with WGs 1 and 7);
* Prepare the draft revision of recommendation e-NAV140 on the overarching e-Navigation architecture;
* Prepare CSSA Workshop 2014 content-wise.
  1. **Develop and maintain shore-based e-Navigation architecture (Task 22\*)**

The Committee prepared a draft overview figure on the relationship between the recommendations e-NAV140 (as revised), the new recommendation on the CSSA system layout, the (future) recommendation on the generic service model of the CSSA, the recommendations on individual services, such as the AIS Service (A.124), and the procurement specifications of IALA national members (e-NAV-17.2.5.1)

Action Item

The Secretariat is requested to forward Working Paper e-NAV14-17.2.5.1 to e-NAV15.

**Prepare the draft revision of “recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective”**

Relevant input documents: e-NAV14-12.2.2; e-NAV14-12.2.3; e-NAV14-12.2.4; e-NAV14-12.2.5.

The Committee prepared a draft revision of recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective (e-NAV14-17.1.5.2 refers).

Action Item

The Secretariat is requested to forward Output Paper e-NAV14-17.1.5.2, recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective, to other IALA Committees and PAP for comment.

The Secretariat is requested to send the revised “Recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective” (e-NAV14-17.1.5.2) to e-NAV15 as an input paper.

**Prepare the draft new “recommendation on the Common Shore Based System Architecture (CSSA) system layout”**

Relevant input documents: e-NAV14-12.2.1; e-NAV14-12.2.1Rev.1.

The Committee finalized a draft new IALA recommendation on the CSSA System Layout (e-NAV14-17.1.5.1 refers). The Common Shore-based System Architecture (CSSA) is the centrepiece of IALA’s work regarding the internationally harmonized shore infrastructure required for the implementation of e-Navigation by IMO in due course.

Action Item

The Secretariat is requested to forward e-NAV14-17.1.5.1 to other IALA Committees and PAP for comment.

The Secretariat is requested to send the revised “Recommendation e-NAV-[x] on the Common Shore Based System Architecture (CSSA) system layout” (e-NAV14-17.1.5.1) to e-NAV15 as an input paper.

**Prepare Content Summary for the CSSA Workshop 2014**

Relevant input documents: e-NAV13-output-8 and e-NAV14.4.1, paragraph 9.4.1.3, and e-NAV14-12.2.12.

The Committee was informed about the CSSA Workshop (26-29 August 2014, Hamburg), as approved by Council.

The CSSA Workshop 2014 will focus on the generic service model part of the CSSA, taking into account the revision of the IALA Recommendation e-NAV140 and the new Recommendation on the CSSA System Layout.

Action Item

The Steering Group of the CSSA Workshop is requested to take the draft revision of IALA Recommendation e-NAV140 and the draft new recommendation on the CSSA System Layout into consideration when planning the CSSA Workshop.

The Steering Group of the CSSA Workshop is requested to consider focusing the content of the Workshop on the generic service model of the CSSA (input documents e-NAV14-12.2.6 to e-NAV14-12.2.11 refer).

Committee members are requested to contribute to CSSA generic service model at CSSA Workshop and at e-NAV15.

**Contribution to the creation of the e-Navigation focal point in "7-Pillars" fashion at e-navigation.net (together with WGs 1 and 7)**

Relevant input documents: e-NAV14-12.2.14; e-NAV14-8.2.2.

The input document e-NAV14-12.2.14 was forwarded to the WG1 for review (please refer to WG1 section of this report).

The WG5 Chair, on behalf of WG5, together with the Chair of WG1 attended a session of WG7 and introduced the concept of the “7-pillar” approach as introduced by document e-NAV14-8.2.2 (please refer to WG7 section of this report).

No action items.

* 1. **Prepare Recommendations and Guidelines on e-Navigation architecture (Task 23\*)**

**Prepare the draft revision of “recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective”**

In order to avoid duplication of text, please refer to the sections above.

**Prepare the draft new “recommendation on the Common Shore Based System Architecture (CSSA) system layout”**

In order to avoid duplication of text, please refer to the sections above.

1. Prepare the draft new “recommendation on the Structure of the Maritime Service Portfolios”

Relevant input documents:

No work was done on this topic during this session.

Action Item

The Secretariat is requested to forward input papers e-NAV14-12.2.1 to e-NAV14-12.2.4, and e-NAV13.2.1 to e-NAV15 as input documents.

**Prepare WG5 contribution to the emerging IALA UOPS**

The Committee considered input documents: e-NAV14-8.6.1, e-NAV14-6.8.2, e-NAV14-6.8.3, and e-NAV-8.6.4; and the above draft recommendation on the CSSA system layout.

Input document e-NAV14-8.6.4 was reviewed and approved by the WG5 and forwarded to the WG1 for their further consideration. In order to avoid duplication of text, please refer to the sections above.

* 1. **Co-ordinate input to IMO, IHO, ISO, IEC and CIRM on e-Navigation architecture (Task 24\*)**

The above revision of e-NAV140 and the new recommendation on the CSSA system layout were progressed.

* 1. **Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)**

Relevant input documents: e-NAV14.8.8.1 to e-NAV14.8.8.7.

The Committee reviewed the draft Chapter 4 for the 2014 edition of the NAVGUIDE and confirmed the proposal for amendment as contained in e-NAV14.8.8.7 unchanged. Refer to section 14.1 of the report for further details.

# Working Group 6 – DATA Modelling and Interfacing (WG6)

## Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)

No work was carried out by WG6 on this task at this session.

## Prepare Recommendations and Guidelines on data modelling (Task34\*)

The Committee finished the guideline on producing an IALA product specification. The Committee reviewed the suggestions and take-away points from the workshop on developing S-100 product specifications for e-Navigationand incorporated these into the guideline.

One of the action items from the workshop was that a revision was needed of Guideline 1087. This revision was completed by the Working group taking into account input papers e-NAV14-13.3.2 and e-NAV14-13.2.4.

On the subject of making a proposal to IHO-TSMAD to support a service centric model. The Committee made some progress but a proposal to IHO-TSMAD cannot be submitted at this stage.

## Support/advise the IALA Domains Manager in managing the IALA domain, according to IHO standards S-100 & S-99 (Task 32\*)

Regarding the input document e-NAV14-13.3.7 the review of the AtoN information Product Specification, the Committee reviewed the Product Specification and the Annexes with respect to consistency with the Template. It was concluded that the Product Specification will need some work before submission and that this will be a done by a task group coordinated by the Vice Chair. Note that the formation of specific task groups for the development of product specifications was approved by council at its 56th session.

## Any other business

Input document e-NAV14-12.3.1. was noted by the Committee.

The need was recognized to have a joint inter-sessional meeting with representatives of IHO to continue the work that began in Taunton (UKHO) in 2011 and followed by a meeting in Monaco in 2012, especially on the subject of the evolution of S-100 to support a service centric model as reported by IHO at NAV59 (refer to NAV59/INF.6). An inter-sessional meeting in the first quarter of 2014 will support the needed progress as mentioned on the subject in 13.2.

Action Items

The Secretariat is requested to send the Guideline on Producing an IALA S-100 Product Specification, output document e-NAV14-17.1.6.1 to Council for approval

The Secretariat is requested to send the liaison note e-NAV14-17.1.6.2 to the VTS, ANM, EEP Committees and PAP.

The Secretariat is requested to send the revised guideline 1087, output document e-NAV14-17.1.6.3 to Council for approval.

The Secretariat is requested to forward e-NAV14-17.2.6.1 to e-NAV15.

The Secretariat is requested to send working papers e-NAV14-17.2.6.2, e-NAV14-17.2.6.3 and e-NAV14-17.2.6.4 to the task group for the development of product specifications for further completion by email correspondence.

The Vice Chair is requested to establish a task group and coordinate the work on the AtoN information Product Specification.

# Working Group 7 – testbeds (WG7)

## Agenda Item 14.1 – Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)

The committee reviewed and updated text on e-Navigation for the next edition of the IALA NAVGUIDE (e-NAV14-17.1.0.4 refers). This was provided to the Vice Chairman, who coordinated the committee’s input to the ANM Committee who is coordinating the review of the IALA NAVGUIDE.

Action Item

The Secretariat is requested to forward revisions for the IALA NAVGUIDE (e-NAV14-17.1.0.4) to ANM21.

## Agenda Item 14.2 - Advise on establishment and requirements for e-Navigation testbeds (Task 35\*)

The committee reviewed the following input papers:

* e-NAV14-14.2.1: Liaison note from the ANM Committee on e-Navigation testbeds (*which advised that the practical aspects of harmonisation may be difficult to achieve*)
* e-NAV14-14.2.2: Draft guideline on the reporting of results of e-Navigation testbeds
* e-NAV14-14.2.3: Liaison note from the VTS Committee (*expressing concern with the discussion paper and draft guidance on testbeds prepared at e-NAV 13*)
* e-NAV14-14.2.4: Report on an international workshop on global e-Navigation Test Beds (submitted by Republic of Korea)

Finalisation of draft Guideline on the reporting of results of e-Navigation testbeds

After taking into account the comments from the ANM and VTS Committees and an exchange of views, the committee prepared a revised version of the guideline (e-NAV14-17.1.7.1 refers). In particular, the committee took into account and addressed the VTS Committee’s concerns in relation to the discussion paper on e-Navigation testbeds (e-NAV13-output-11) when reviewing the guideline. The committee also discussed the development of various ‘forms’ such as web-based, on-line PDF and printed forms, which would be needed by the IALA membership for reporting results of testbeds.

Action Items

The IALA Secretariat is requested to forward the draft guideline on the reporting of results of e-Navigation testbeds (e-NAV14-17.1.7.1) to the IALA Council for approval.

If the guideline on the reporting of results of e-Navigation testbeds (e-NAV14-17.1.7.1) is approved by the Council, the IALA Secretariat is requested to submit it to the IMO Correspondence Group on e-Navigation.

The IALA Secretariat is requested to incorporate the contents of Annex 2 of the guideline on reporting of testbed results (e-NAV 14-17.1.7.1) into web-based, on-line PDF and paper forms, which can be used to provide information on testbed results to IALA. Once developed, these forms are to be sent to Thomas Porathe ([Thomas.Porathe@chalmers.se](mailto:Thomas.Porathe@chalmers.se)) for posting on the e-Navigation.net portal.

## Agenda Item 14.3 - Co-ordinate results of testbeds using a portal (Task 36\*)

Thomas Porathe of Chalmers University, Sweden described the salient features of the existing e-Navigation portal [www.e-navigation.net](http://www.e-navigation.net), which was created by (and is being maintained by) the Danish Maritime Authority.

The committee proposed minor enhancements to the portal, based on members’ experiences with testbeds and the recently finalised draft Guideline on the Reporting of Results of e-Navigation Testbeds.

The main enhancements identified include:

* The addition of references to relevant websites (e.g. IMO, IHO, CIRM, ITU);
* The addition of links to key IMO, IALA and IHO publications;
* The creation of two separate areas - one for existing testbeds and another for testbeds under preparation;
* Population of the calendar portion of the website;
* Renaming the Testbeds tab to Testbeds/Projects;
* Addition of relevant presentations, for example the presentation made by the Republic of Korea on SMART e-navigation at IMO NAV 59.

The Danish Maritime Authority informed the committee that, from January to September 2013, the e-Navigation.net website received 6,129 visits. However, 45% of those left the site after visiting the home page. The average duration that a visitor stayed on the site was 5 minutes.

Action Items

Thomas Porathe is requested to make changes to the e-Navigation.net portal based on the items listed under Agenda Item 14.3 in the report of e-NAV14.

The Republic of Korea is invited to provide summary information and the presentation made at IMO NAV59 on SMART e-navigation to Thomas Porathe for posting on the e-Navigation.net portal.

Once testbed reporting forms have been posted on the e-Navigation.net portal, the IALA Secretariat is requested to correspond with the IALA membership, encouraging the reporting of e-Navigation testbed results to IALA Secretariat.

Report on an International Workshop on Global e-Navigation Test Bed (Republic of Korea, Sept.12, 2013)

The Republic of Korea introduced their paper titled *Report on an international workshop on global e-Navigation Test Beds (e-NAV14-14.2.4)*. It was noted that one of the main outcomes of the workshop was to ‘*conduct a feasibility study on the possibility of using a common platform for testbed’.*

The committee exchanged views on this paper. There was in-principle support for the concept of establishing a common global platform (testing framework) for testbeds. However, a number of pros and cons of such an endeavour were identified, such as:

Pros: - Ability to test and share solutions in different geographical locations

* Could facilitate rapid developments

Cons: - Could be more time consuming and difficult to administer

* Could be perceived to be the only testing framework to be used, thereby potentially restricting innovation

Action Items

The Republic of Korea is invited to conduct a feasibility study on the possibility of using a common platform for a global testbed and provide a report to the IALA Secretariat for further development of the concept within the IALA committee structure during the 2014-18 work programme.

IALA members, in particular members of the e-Navigation Committee, are invited to contribute to the Republic of Korea-led study (email contact: [jin.h.park@kiost.ac](mailto:jin.h.park@kiost.ac) ) on the possibility of using a common platform for a global testbed.

Communicating e-Navigation Information

A discussion took place on the need to communicate, in simple terms, the concept of e-Navigation to the wider maritime community. It was felt that the IALA e-Navigation FAQ’s and the concept of ‘seven pillars of e-navigation’ could be ways to achieve this objective. Conceivably, this aim could equally be achieved by presenting information in other ways. It was also felt that for now, the e-Navigation.net portal would be a suitable platform. However, this is a significant undertaking.

It was recognised that a comprehensive project to develop and maintain a web presence, so as to communicate e-Navigation information, while at the same time educate maritime stakeholders, was needed. A project plan is required, which would identify scope, resources, funding, timing and deliverables. Such a plan would need to be developed and agreed by IALA.

In the interim, the committee reaffirmed its decision made at e-NAV 13, that a section on the e-navigation.net portal be created, titled ‘e-Navigation explained’. It should be populated using the existing approved IALA e-Navigation FAQs.

The section should be marked ‘under construction’ until the project plan is implemented.

A liaison note was prepared for PAP (e-NAV14 – 17.1.7.2) highlighting issues identified above with regard to the e-navigation.net portal.

Action Items

The IALA Secretariat is requested to forward the liaison note (e-NAV14-17.1.7.2) on the e-Navigation.net portal to the next meeting of the Policy Advisory Panel (PAP).

Thomas Porathe is requested to create a section on the e-Navigation.net portal titled ‘e-Navigation explained’ and populate it with the latest version of the approved IALA e-Navigation FAQs. The section should be marked ‘under construction’ until the e-Navigation.net portal project plan is implemented.

## Agenda Item 14.4 - Provide an online forum for the IALA membership to discuss issues of common interest and concern in relation to testbeds (Task 37\*)

Steve Burrows of Commissioners of Irish Lights, Ireland established an on-line discussion forum titled ‘e-Navigation testbeds’. It is hosted on the LinkedIn website ([www.linkedin.com/groups/eNav-Test-Beds-5068692](http://www.linkedin.com/groups/eNav-Test-Beds-5068692)). This forum is available to IALA members for:

* Discussion on methodologies of testbeds;
* Notifications of testbeds progress;
* Exchange of ideas; and
* Sharing of lessons learnt.

Action Item

The IALA Secretariat is requested to inform the IALA membership of the creation of an IALA e-Navigation forum on testbeds on LinkedIn and encourage participation.

# review of current work programme

Input paper e-NAV14-15 refers.

Progress in carrying out the e-NAV Committee work programme was reviewed and updated (e-NAV14-17.1.0.1) and is shown in Annex G.

Action Item

The Secretariat is requested to forward the e-NAV Committee work programme e-NAV17-17.1.0.1 to the Council for noting.

# Future Work Programme (2014 – 2018)

Input papers e-NAV14-16.1, e-NAV14-16.2, e-NAV14-16.3, e-NAV14-16.4, e-NAV14-16.5, e-NAV14-16.6, refer.

The Chairman and Vice Chairman prepared a revised work programme for the work period 2014-1018 (e-NAV14-17.1.0.3).

Action Item

The Secretariat is requested to forward the e-NAV Committee work plan for 2014-2018 (e-NAV14-17.1.0.3) to the PAP.

# Review of output and working papers

Output papers were reviewed and their disposition agreed as indicated in Annex E.

# Any Other Business

## World Wide Academy

Input paper e-NAV14-18.1 was considered.

WWA L1 Model Course 1.4 on an introduction to e-Navigation 2013 (Rev 1) (e-NAV14- 17.1.0.2) was completed and forwarded to EEP21 for endorsement.

The Chair and Vice-Chair approved two applications to become IALA-endorsed e-Nav experts. These were Pieter Paap and Ulf Svedberg whose names are now on the Academy page of the IALA website.

Action Item

The Secretariat was requested to submit WWA L1 Model Course 1.4 on an introduction to e-Navigation 2013 (Rev 1) (e-NAV14- 17.1.0.2) to EEP21 for endorsement.

## World Maritime Day 2013 Discussion

The Committee noted that World Maritime Day was being celebrated on 26th September 2013.

# Review of session report

The report of the meeting (e-NAV14-19) was reviewed and approved by the Committee.

Action item

The Secretariat is requested to forward the report of e-NAV14 (e-NAV14-19) to the Council, to note.

# Date and venue of next meeting

e-NAV15 is expected to meet in September, 2014 at IALA. Date will be advertised on the web site.

# Closing of the meeting

The Chairman noted the working group on data modelling and the great deal of work to be done. He observed that the IMO will continue to need and value the assistance of IALA. He invited all Members to continue the good work of the Committee. He reiterated the role of the PAP, recalling the role as advisory to the Council and meeting twice yearly and noting that the next meeting in October 2013 will deal with IALA strategy

He expressed his thanks to all Members for what the Committee had achieved during both the week and the four year work term. He noted with thanks the contribution of Rolf Zetterberg who will retire before the next Committee meeting and expressed the sad loss to IALA. He then wished everyone a safe journey home, saying that he hoped to see everyone again at the next meeting. He then declared the meeting closed.

# List of Annexes to the report

1. Agenda

A copy of the agenda is at Annex A.

1. Participants

A list of participants and apologies is at Annex B.

1. Working Groups – List of participants

A list of Working Group participants is at Annex C.

1. Input Papers

A list of input papers is at Annex D.

1. Output and Working Papers

A list of output and working papers is at Annex E.

1. Work programme

A summary of progress in completing the work programme and progress with deliverables is at Annex F

1. Action Items

A list of action items is at Annex G.

1. Agenda

**13th Meeting of the e-Navigation Committee**

The 14th meeting of the **e-NAV Committee** will be held from 23 – 27 September, 2013 at IALA, St Germain en Laye, France.

The opening plenary will commence at 1400 hours on Monday 23 September and the closing plenary will end at approximately 1300 on Friday 27 September.

Committee Chair, Vice-Chair and Working Group Chairs are requested to meet at 1000 hours on Monday 23 September.

Work items / Tasks being addressed during this meeting are listed in Paper e-NAV13/output/2.

**AGENDA**

1. Opening
   1. Administration & safety briefing
   2. Approval of the agenda
   3. Introductions and apologies
   4. Programme for the week
2. Review of action items from last meeting
3. Review of input papers
4. Reports from other bodies:
   1. Report from IALA Council – 55th Session, May 2013
   2. Report from PAP25, May 2013
   3. Report from MSC92, June 2013
   4. Report from NAV59, September 2013
   5. Report from VTS37 to e-NAV14 Pieter Paap
5. Reports from Rapporteurs:
   1. Monitor and report progress on related systems (Task 28\*)
6. Presentations (15 minutes duration)
   1. WWA update Stephen Bennett
   2. e-Navigation Infrastructure Requirements Fred Pot
   3. The maritime cloud Ole Borup
7. Establish Working Groups
8. WG 1 – Operations & Strategy (User requirements)
   1. Monitor and co-ordinate input on Strategy & Operations to the IMO process (Task1\*)
   2. Review and update IALA Strategy for e-Navigation (Task 2\*)
   3. Maintain and update user requirements (in co-ordination with the VTS Committee) (Task 3\*)
   4. Monitor developments in navigation for polar regions (Task 4\*)
   5. Prepare Recommendations and guidelines on Maritime Information Systems (in co-ordination with the VTS Committee) (Task 25\*)
   6. Prepare Recommendations and guidelines on the portrayal of information (Task 26\*)
   7. Monitor developments in ECDIS, INS, and ENCs (Task 27\*)
   8. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
   9. Liaise with other IALA Committees re IALA Annual Questionaire (Task 29)
   10. Prepare a combined IALA e-Navigation Plan (all Committees) (Task 30\*)
   11. Consider the regulatory process for e-Navigation and recommend the best approach (Task 31\*)
   12. Monitor the activities of the Competent Pilotage Authority Forum (CPAF) (Task 33\*)
9. WG 2 – PNT / Sensors
   1. Review and update the World Wide Radio Navigation Plan (Task 5\*)
   2. Prepare Recommendations and Guidelines on PNT systems and radar AtoN (Task 6\*) -
   3. Co-ordinate input to IMO, ITU, and IEC on PNT systems (Task 7\*)
   4. Prepare a Guideline on establishment and operation of navigation systems in polar regions (Task 8\*)
   5. Monitor developments in satellite and terrestrial EPFSs and non-radionavigation systems (Task 9\*)
   6. Prepare a Guideline on recommended measures for disaster recovery (Task 10\*) -
   7. Monitor developments in radar technology and their effect on racons (Task 11\*)
   8. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
   9. Liaise with other IALA Committees and other bodies re disaster recovery (Task 29\*)
10. WG 3 – AIS
    1. Review and update documentation on AIS (M.1371; A-124, A-126) (Task 12\*)
    2. Co-ordinate input to IMO, ITU, and IEC on AIS (Task 13\*)
    3. Monitor and contribute to the efficient utilization of AIS, development of future VHF Data Exchange (VDE) and technical standards (with WG4). (Task 14\*)
    4. Monitor developments in the technical definition of AIS stations at IEC, satellite detection of AIS, and terrestrial long range AIS (Task 15\*)
    5. Monitor developments in the use of AIS in polar regions (e.g. AIS AtoN (Task 16
    6. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
    7. Provide guidance on the reliability of AIS data when used in court (Task 32\*).
11. WG 4 – Communications
    1. Review and update IALA Maritime Radio Communications Plan (Task 17\*)
    2. Prepare Recommendations and Guidelines on communications (Task 18\*)
    3. Co-ordinate input to ITU, IMO, and IEC on communications (Task 19\*)
    4. Prepare a Guideline on the establishment and operation of communications systems in polar regions (Task 20\*) -
    5. Monitor developments in GMDSS and LRIT (Task 21\*)
    6. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
12. WG 5 – Technical Architecture
    1. Develop and maintain shore-based e-Navigation architecture (Task 22\*)
    2. Prepare Recommendations and Guidelines on e-Navigation architecture (Task 23\*)
    3. Co-ordinate input to IMO, IHO, ISO, IEC and CIRM on e-Navigation architecture (Task 24\*)
    4. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
13. WG 6 – Data Modelling
    1. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
    2. Prepare Recommendations and Guidelines on data modelling (Task 34)
    3. Advise on management of the IALA domain, according to IHO standards S-100 & S-99 (Task 32\*)
14. WG7 – Testbeds
    1. Liaise with other IALA Committees re NAVGUIDE review (Task 29\*)
    2. Advise on establishment and requirements for e-Navigation testbeds (Task 35\*)
    3. Co-ordinate results of testbeds using a portal (Task 36\*)
    4. Provide an online forum for the IALA membership to discuss issues of common interest and concern in relation to testbeds (Task 37\*)
15. Review of Current Work Programme
16. Future Work Programme (2014 – 2018)
17. Review of output and working papers
18. Any Other Business
    1. World Wide Academy
    2. World Maritime Day 2013 discussion
19. Review of session report
20. Date and venue of next meeting
21. List of Participants

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1. List of Input Papers

**All papers are posted on the FTP server and the Committee website**

| Meeting | Agenda Item | Title / Author (if required) | Agenda Item | Presented by / WG |
| --- | --- | --- | --- | --- |
| e-NAV13- | Output 1 | Report of e-NAV13 | All | 1 |
| e-NAV14- | 1.2 rev3 | Agenda | BC / CS | 1 |
| e-NAV14- | 1.4 Rev1 | Programme for the week (Finalised at pre-meeting) | BC / CS | 1 |
| e-NAV14- | 2 | Action Items from e-NAV13 | BC / CS | 1 |
| e-NAV14- | 3.1 | e-NAV14 input paper template | All | 1 |
| e-NAV14- | 3.2 rev13 | Input Papers’ List (Finalised at pre-meeting) | BC | 1 |
| e-NAV14- | 4.1 | Report of Council 55 | BC | 1 |
| e-NAV14- | 4.2 | Report of PAP25 May 2013 | BC | 4 |
| e-NAV14- | 4.3.1 | MSC 92 - Draft Report Of The Maritime Safety Committee On Its 92nd session | BC | late |
| e-NAV14- | 4.3.2 | MSC 92-WP.1 Report -Add.1 - [For items 1, 2, 3 (part), 5 (part), 6 (part), 7, 8, 10, 11, 14 and 16] | BC | late |
| e-NAV14- | 4.3.3 | MSC 92-WP.1 Report -Add.2 - [For items 1, 2, 3 (part), 5 (part), 6 (part), 7, 8, 10, 11, 14 and 16] | BC | late |
| e-NAV14- | 4.3.4 | Report on imo msc92 Mike Card | BC | late |
| e-NAV14- | 4.4 | NAV 59 - Draft Report WP1 To The Maritime Safety Committee. | BC | late |
| e-NAV14- | 4.5 | Report VTS37 Committee to e-NAV Committee | BC | Very late |
| e-NAV14- | 8.1.1 | Proposed Software Quality Assurance for onshore systems | 1 | 1 |
| e-NAV14- | 8.1.2 | Australias Contribution to the Dev of IMO e-Nav Strategy Implementation Plan | 1 | Very late |
| e-NAV14- | 8.1.3 | NAV 59-6 - Report of the Correspondence Group on e-navigation to NAV 59 (Norway) | 1 | Very late |
| e-NAV14- | 8.2.1 | Concept of e-Navigation Operstions in Canada | 1 | 1 |
| e-NAV14- | 8.2.2 | The e-Navigation Suite' - List of Topics | 1 & 2/3/4/5/6/7 | 1 |
| e-NAV14- | 8.2.3 | NAV59 wp8 e-navigation - Report of WG | 1 | Very late |
| e-NAV14- | 8.6.1 | Liaison note from VTS on Draft Guideline on Harmonised Portrayal of e-Navigation-related Information | 1 | 1 |
| e-NAV14- | 8.6.2 | Draft IALA Guideline on Harmonised Portrayal of e-Nav Info - VTS comments | 1 | 1 |
| e-NAV14- | 8.6.3 | Draft IALA Guideline on Harmonised Portrayal of e-Nav Info from e-NAV12 | 1 | 3 |
| e-NAV14- | 8.6.4 | Note to WG1 from WG5 regarding e-NAV14 8.6.3 on UOPS Harmonized User Requirements | 1, 5 | 7 |
| e-NAV14- | 8.8.1 | Liaison Note from ANM to e-NAV about NAVGUIDE | 1 | 1 |
| e-NAV14- | 8.8.2 | NAVGUIDE Timetable | 1 | 1 |
| e-NAV14- | 8.8.3 | NAVGUIDE Work Plan | 1 | 1 |
| e-NAV14- | 8.8.4 | Draft NAVGUIDE | 1 | 1 |
| e-NAV14- | 8.8.5 | Revision of Navguide Chapter on e-Navigation (ref e-NAV14-8.8.6) | 1 | 2 |
| e-NAV14- | 8.8.6 | IALA NAVGUIDE Chapter 4 e-Navigation - final draft for 2014 edition | 1 | 2 |
| e-NAV14- | 8.8.7 | IALA NAVGUIDE Chapter 4 e-Navigation - WG5 Review of final draft for 2014 edition | 1 & 5 | 5 |
| e-NAV14- | 8.9.1 | Draft liaison note From ANM to e-NAV & EEP on the Annual Questionnaire | 1 | 1 |
| e-NAV14- | 8.10.1 | Liaison note to all Committees on e-Navigation Roadmap | 1 | 1 |
| e-NAV14- | 9 | WG2 (PNT/Sensors) work plan for e-NAV14 | 2 | 3 |
| e-NAV14- | 9.7.1 | Radar Positioning - Trials results and feasibility analysis info | 2 | 5 |
| e-NAV14- | 9.9.1 | Liaison note from EEP to e-NAV & ANM on Disaster Recovery | 2 | 1 |
| e-NAV14- | 9.9.2 | Liaison Note on Disaster Recovery | 2 | 1 |
| e-NAV14- | 9.9.3 | Liaison note Response from VTS37 regarding Disaster Recovery | 2 | Very late |
| e-NAV14- | 10.3.1 | Report of intersessional meeting of the AIS + Comms Working Group of the IALA e-NAV Committée, held 26-30 August 2013, in Brest, France. | 3 | 4 |
| e-NAV14- | 10.3.2 | Brest Output 02 Draft Information Paper on VDES ver4.0.docx | 3 | 4 |
| e-NAV14- | 10.3.3 | Brest Output 03 Working Doc Toward Preliminary Draft New Rec ITU-R M VDES Tech characteristics.docx | 3 | 4 |
| e-NAV14- | 10.3.4 | Brest Output 04 Technical Guidelines for VDES Implementation.docx | 3 | 4 |
| e-NAV14- | 10.3.5 | e-NAV14-10.3.4 Brest Output 05 Cover Note for e-NAV14-10.3.6.docx | 3 | 4 |
| e-NAV14- | 10.3.6 | Brest Output 05 - IALA input to ITU for MRCP Working Doc (rev2) | 3 | 4 |
| e-NAV14- | 10.3.7 | Alternative Frequency Arrangement for VDES from Canada from WG3-4 intercessional meeting in Brest | 3 | 5 |
| e-NAV14- | 10.3.8 | JCG Input re VDES contribution to ITU in 2014 | 3 | 7 |
| e-NAV14- | 10.3.9 | ESA Demonstration objective for VDES | 3, 4, 7 | 7 |
| e-NAV14- | 10.3.10 | AIS coverage analysis tool available DMA | 3, 4 | Very late |
| e-NAV14- | 11.2.1 | Liaison note from EEP on e-Navigation interfaces for physical AtoN | 4 | 1 |
| e-NAV14- | 11.3.1 | Liaison note from ITU WP5B (5B/temp/127) | 4 | 2 |
| e-NAV14- | 12.1 | WG5 breakout plan preparation - topics | 5 | 7 |
| e-NAV14- | 12.1.1 | Report Architecture (WG5) Intersessional Meeting Dec12 | 5 | 1 |
| e-NAV14- | 12.1.2 Previously 13.2.1 | Draft Document on the Structure of Maritime Service Portfolios( MSP) | 5 | 1/6 |
| e-NAV14- | 12.1.3 Previously 13.2.2 | Standalone Document on the Implementation of MSP strategic perspective | 5 | 1/6 |
| e-NAV14- | 12.1.4 Previously 13.2.3 | Liaison note to IMO CG on MSPs | 5 | 1/6 |
| e-NAV14- | 12.2.1 | Draft Recommendation on IALA Common Shore Based System Architecture-Layout | 5 | 1 |
| e-NAV14- | 12.2.1 Rev1 | Draft Rec on CSSA System Layout 20130920 Mueller-Oltmann Collected Edits | 5 | Very late |
| e-NAV14- | 12.2.2 | Note on draft Revision of Recommendation e-NAV-140 on e-Navigation Architecture from the Shore Perspective | 5 | 1 |
| e-NAV14- | 12.2.3 | Draft Revision Recommendation e-NAV-140 on e-Navigation Architecture-ShorePerspective (from e-NAV9) | 5 | 1 |
| e-NAV14- | 12.2.4 | Draft Revision of Recommendation e-NAV-140 (On the Creation of IALA Stakeholder’s Harmonized User Requirements (ISHR) ) | 5 | 1 |
| e-NAV14- | 12.2.5 | Requirement Engineering Process for IALA e-Navigation | 5 | 1 |
| e-NAV14- | 12.2.6 | Draft IALA Recommendation on Generic e-Navigation Service Engineering Model Template | 5 | 1 |
| e-NAV14- | 12.2.7 | Draft IALA Recommendation on Generic e-Navigation Service Engineering Model Template Appendix 0 | 5 | 1 |
| e-NAV14- | 12.2.8 | Draft IALA Recommendation on Generic e-Navigation Service Engineering Model Template Appendix 4 | 5 | 1 |
| e-NAV14- | 12.2.9 | Draft IALA Recommendation on Generic e-Navigation Service Engineering Model Template Appendix 5 | 5 | 1 |
| e-NAV14- | 12.2.10 | WG3 & WG5 Dublin Inter-sessional Meeting Output1 (Report) | 5&3 | 1 |
| e-NAV14- | 12.2.11 | Graphic - TIL-V3-Overview from DE-Wikipedia 2007-12 | 5 | 1 |
| e-NAV14- | 12.2.12 | Council 55 items of interest for e-Nav WG5 | 5 | 5 |
| e-NAV14- | 12.2.13 | Cover note for input document e-NAV14-12.2.14 | 5 | 7 |
| e-NAV14- | 12.2.14 | Merged FAQs + Architecture FAQs (Council-#55Requested) Based On e-NAV12-output-27 JHO-Amended | 5 | 7 |
| e-NAV14- | 12.3.1 | Harmonisation of MSPs - Considerations 20130917 from S-100 Workshop | 5 1, 2, 3+4, 6 | 7 |
| e-NAV14- | 13.2.4 | Revision of Guideline 1087 | 6 | 2 |
| e-NAV14- | 13.3.1 | Draft Guideline on Producing an IALA S-100 Product Specification - superceded by 13.3.4 | 6 | 1 |
| e-NAV14- | 13.3.2 | Information paper on IALA Participation in IHO GI Registry | 6 | 1 |
| e-NAV14- | 13.3.3  Rev1 | Liaison note Input paper e-NAV14-13.3.4 from WG6\_1 Rev1 | 6 | 7 |
| e-NAV14- | 13.3.4 | Draft Guidelline on Producing an IALA S-100 Product Specification\_WSversion07062013 | 6 | 2 |
| e-NAV14- | 13.3.5 | Report of the IALA Workshop on Developing S-100 Product Specifications for e-Navigation, June 2013 | 6 | 5 |
| e-NAV14- | 13.3.6 | Streaming data to deliver data in S-100 rev2 from S-100 Workshop June 2013 | 6 | 5 |
| e-NAV14- | 13.3.7 | AtoN Information Product Specification | 6 | 7 |
| e-NAV14- | 13.3.8 | AtoN Information Product Specification ANNEX 1 | 6 | 7 |
| e-NAV14- | 13.3.9 | AtoN Information Product Specification ANNEX 2 | 6 | 7 |
| e-NAV14- | 13.3.10 | AtoN Information Product Specification ANNEX 3 | 6 | 7 |
| e-NAV14- | 14.2.1 | Draft liaison note from ANM to e-NAV on e-Navigation testbeds | 7 | 1 |
| e-NAV14- | 14.2.2 | Draft IALA Guidelines on reporting of Results of e-Nav Testbeds | 7 | 3 |
| e-NAV14- | 14.2.3 | Liaison note from VTS37 re Testbeds | 7 | Very late |
| e-NAV14- | 14.2.4 | Workshop on Global e-Nav Test Bed Korea - Report v.0.9 | 7 | Very late |
| e-NAV14- | 15 | e-NAV Work programme, as approved at C55 | All | 1 |
| e-NAV14- | 16.1 | Recommendations master list | C&VC | 1 |
| e-NAV14- | 16.2 | Guidelines master list | C&VC | 1 |
| e-NAV14- | 16.3 | Other publications master list | C&VC | 1 |
| e-NAV14- | 16.4 | Work Plan 2014-18 Update note (ref e-NAV14-16.4) | C&VC | 2 |
| e-NAV14- | 16.5 | Work Plan 2014-18 final draft | C&VC | 2 |
| e-NAV14- | 16.6 | New Work - Proposal for Rec & Guideline on AIS Service as a sub-basic VTS | C&VC | 2 |
| e-NAV14- | 18.1 | WWA L1 Model Course 1.4 on an introduction to e-Navigation 2013 (Rev 1) | C&VC | 2 |

1. List of Output and Working Papers

Output papers are submitted for review by a body other than the Committee initiating the paper.

| Number | Title | Status |
| --- | --- | --- |
| e-NAV14-17.1.0.1 | e-NAV Committee Review of Progress with Deliverables at e-NAV 14 | To Council for noting |
| e-NAV14-17.1.0.2 | WWA L1 Model Course 1.4 on an introduction to e-Navigation 2013 (Rev 1) | To EEP21 |
| e-NAV14-17.1.0.3 | Work Plan 2014-18 final draft | to PAP26 |
| e-NAV14-17.1.0.4 | IALA navguide chapter 4 e-navigation final draft for 2014 with tc | To ANM21 |
| e-NAV14-17.1.0.5 | Liaison Note to ANM about NAVGUIDE | To ANM21 |
| e-NAV14-17.1.0.6 | draft liaison note to IALA PAP re approval procedures | To PAP26 |
| e-NAV14-17.1.1.1 | Draft IALA guideline on harmonised portrayal of e-nav info 0.2 | To Council for approval |
| e-NAV14-17.1.1.2 | Liaison Note from e-NAV14 to IMO re a Roadmap and Key Dates for e-Navigation | To IMO CG  To Council for noting |
| e-NAV14-17.1.1.3 | e-Navigation FAQs final v1.8 | To Secretariat |
| e-NAV14-17.1.1.4 | Liaison Note to IMO e-Navigation Correspondence Group re Strategic Implementation Plan (SIP) | To IMO CG  To Council for noting |
| e-NAV14-17.1.1.6 | Liaison note to IALA e-Navigation Portal Webmaster | e-NAV Portal Webmaster |
| e-NAV14-17.1.2.1 | Liaison note Polar Workshop organising committee | To Polar Workshop |
| e-NAV14-17.1.2.2 | Draft Guideline on Polar Communication | To Polar Workshop |
| e-NAV14-17.1.2.3 | Guideline on the Challenges of Providing AtoN Services in Polar regions - PNT input v2 | To Polar Workshop |
| e-NAV14-17.1.2.4 | Liaison note e-NAV to ANM, EEP & VTS Committees on Disaster Recovery | To ANM, EEP and VTS Committees |
| e-NAV14-17.1.3.1 | Information Paper on VDES | To Council  Then to all Committees |
| e-NAV14-17.1.3.3 | Liaison note to ITU-R WP5B | To Council for approval  Then ITU WP5B |
| e-NAV14-17.1.3.4 | Working Towards a Draft Rec on VDES | To Council for approval  Then ITU WP5B |
| e-NAV14-17.1.3.5 | Reformatted ITU WP on MRCP v1 | To Council for approval  Then ITU WP5B |
| e-NAV14-17.1.3.6 | Demonstration objectives for VDES | To Council for approval  Then to IALA Members, CIRM, IEC, and RTCM |
| e-NAV14-17.1.3.7 | Liaison note to council on reformatting the MRCP for ITU | To Council by correspondence |
| e-NAV14-17.1.5.1 | Draft IALA Recommendation on the IALA Common Shore-based System Architecture (CSSA) d | To All Committees, PAP & e-NAV15 |
| e-NAV14-17.1.5.2 | Draft Revision Of Rec e-NAV-140 on e-Navigation Architecture-Shore Perspective(Ed2) | To All Committees, PAP & e-NAV15 |
| e-NAV14-17.1.6.1 | Guideline on producing IALA S100 PS | To Council for approval |
| e-NAV14-17.1.6.2 | Liaison note from eNAV to committees and PAP re S100 PS | To VTS, ANM, EEP Committees and PAP |
| e-NAV14-17.1.6.3 | Draft Guideline 1087 Ed2 Procedures for the Management of the IALA Domains under the IHO GI Registry\_Sept2013 | To Council for approval |
| e-NAV14-17.1.7.1 | Draft Guideline on the reporting of results of e-Navigation testbeds | To Council for approval Then to IMO CG |
| e-NAV14-17.1.7.2 | Liaison note to PAP from e-NAV14 on the e-Navigation web portal | To PAP |
| e-NAV14-19 | Report e-NAV14 | To Council for noting |

Working Papers are papers that will remain within the committee for further review.

|  |  |  |
| --- | --- | --- |
| Number | Title | Status |
| e-NAV14-17.2.1.5 | Proposed SIP structure | To e-NAV15 |
| e-NAV14-17.2.2.1 | R-121 Draft 4 eNAV14 WG2 Review v2 | To e-NAV15 |
| e-NAV14-17.2.2.2 | Draft guideline on eLoran service provision - WG2 review up to Chapter 4 at e-NAV14 | To e-NAV15 |
| e-NAV14-17.2.3.1 | Working Document on the innovative use of AIS | To e-NAV15 |
| e-NAV14-17.2.3.2 | Information Paper on Technical Guidelines for implementation of VDES | All Committees and e-NAV15 |
| e-NAV14-17.2.5.1 | Relationship Between e-Navigation Technical Architecture Documents | To e-NAV15 |
| e-NAV14-17.2.6.1 | Streaming data to deliver data in s100 rev2 from s 100 workshop June 2013 | To e-NAV15 |
| e-NAV14-17.2.6.2 | aton information product specification annex 1 | To TG1 |
| e-NAV14-17.2.6.3 | aton information product specification annex 2 | To TG1 |
| e-NAV14-17.2.6.4 | aton information product specification annex 3 | To TG1 |

1. Work programme - Review of Progress with Deliverables at e-NAV 14

| **Working Group** | **Task** | **Task No** | **Task in 2010-14 Work Plan Completed** | **Task to be carried over to 14-18 WP** |
| --- | --- | --- | --- | --- |
| 1. Strategy & Operations | Coordinate IMO input | 1 | Yes | Yes |
|  | Update IALA Strategy | 2 | Yes | Yes |
|  | Update user requirements | 3 | Yes | Yes |
|  | Monitor polar developments | 4 | Yes | Yes |
|  | Portrayal guidelines | 26 | Yes | No |
|  | Maritime Information Systems | 25 | Yes | Yes |
|  | Monitor developments in ECDIS, INS, and ENCs | 27 | Yes | Yes |
|  | IALA e-Navigation Plan | 30 | Yes | Yes |
|  | Regulatory process for e-Navigation | 31 | Yes | Yes |
|  | Monitor CPAF | 33 | Yes | Yes |
| 2. Sensors/PNT | WWRNP | 5 | Yes | Yes |
|  | R-121 | 6 | No | Yes |
|  | R-129/R-135 | 6 | Yes | Yes |
|  | R-101 | 6 | Yes | Yes |
|  | eLoran Rec. | 6 | No | Yes |
|  | Polar guideline | 8 | Yes | No |
|  | Racon Strategy | 11 | Yes | Yes |
|  | Monitor EPFS and non-radionavigation systems | 9 | Yes | Yes |
|  | Co-ordinate input to IMO, ITU, and IEC on PNT systems | 7 | Yes | Yes |
|  | Guideline on recommended measures for disaster recovery | 10 | Yes | No |
| 3 & 4. AIS & Communications | Update AIS docs. (M.1371; A-124, A-126) | 12 | Yes | Yes |
|  | Coordinate input to ITU, IMO, IEC | 13 | Yes | Yes |
|  | VDES development | 14 | Yes | Yes |
|  | AIS & communications in polar regions | 16 | Yes | No |
|  | AIS reliability | 32 | Yes | No |
|  | MRCP | 17 | Yes | Yes |
|  | Monitor GMDSS & LRIT | 21 | Yes | Yes |
|  | Monitor developments in AIS at IEC | 15 | Yes | Yes |
|  | Recommendations and Guidelines on communications | 18 | Yes | Yes |
|  | Co-ordinate input to ITU, IMO, and IEC on communications | 19 | Yes | Yes |
|  | Guideline on communications in polar regions | 20 | Yes | No |
|  | Monitor developments in GMDSS and LRIT | 21 | Yes | Yes |
| 5. Architecture | Develop architecture | 22 | Yes | Yes |
|  | Prepare Recommendation | 23 | Yes | Yes |
|  | Generic CSSA layout | 23 | Yes | Yes |
|  | Coordinate input to IMO, IEC, ITU | 24 | Yes | Yes |
| 6. Data Modelling | Guideline on Domain Management | 32\* | Yes | Yes |
|  |  |  |  |  |
|  | Guideline on preparation of S-100 Product Specifications | 34 | Yes | Yes |
|  | S-100 PS on AtoN Information | 34 | Yes | Yes |
| 7. Test Beds | Draft guideline | 35 | Yes | No |
|  | Coordinate Portal | 36 | Yes | Yes |
|  | Online forum | 37 | Yes | Yes |
|  |  |  |  |  |
| ALL WG | Navguide | 29 | Yes | Yes |
| ALL WG | Monitor and report progress on related systems | 28 | Yes | Yes |

\* Task 32 number has been used for two separate tasks inadvertently.

1. Action items

Action Items for the IALA Secretariat

1. The IALA Secretariat is requested to forward the comments relating to the SIP (e-NAV14-17.2.1.5) to e-NAV15 as a Working Paper. 8
2. The IALA Secretariat is requested to forward the liaison note (e-NAV14-17.1.1.4) and the revised Roadmap (e-NAV14-17.1.1.2) to the IMO CG following amendment in relation to e-NAV14-17.2.1.5. 8
3. The IALA Secretariat is requested to finalise the editorial instructions and forward e-NAV14-17.1.1.1 to Council for approval. 9
4. The IALA Secretariat is further requested to contact the webmaster of the website (www.e-Navigation.net) with a request to post the latest version of the “template for submission of examples of portrayal” (as referenced in document e-NAV14-1.1.1. Annex A). 9
5. The IALA Secretariat is requested to forward the liaison note re the template for submitting new proposals to test beds and portrayal examples for inclusion in the IALA e-Navigation Portal (e-NAV14-17.1.1.6) to the Portal Webmaster. 9
6. The Secretariat is requested to replace the existing FAQs on the website with (e-NAV14-17.1.1.3) and also submit them to the IALA Bulletin for consideration. 10
7. The IALA Secretariat is requested to include the working paper R-121 Draft 4 eNAV14 WG2 Review v2 (e-NAV14-17.2.2.1) as an input paper to e-NAV 15. 10
8. The IALA Secretariat is requested to forward Liaison Note (e-NAV14-17.1.2.1) and the two input papers PNT contribution to the Guideline on the Challenges of Providing AtoN Services in Polar regions. (e-NAV14-17.1.2.2) and Draft Guideline on Polar Communications (e-NAV14-17.1.2.3) to the IALA Workshop on the Challenges of Providing AtoN Services in Polar Regions. 10
9. The IALA Secretariat is requested to forward the working paper (e-NAV14-17.2.2.2) to e-NAV15. 11
10. The IALA Secretariat is requested to send the Liaison note (e-NAV14-17.1.2.4) to the ANM, EEP and VTS Committees. 11
11. The Secretariat is requested to forward the liaison note e-NAV14-17.1.3.3, e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5, to Council for approval by email. 12
12. If approved, the Secretariat is requested to send the liaison and the documents e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5 to ITU WP5B. The deadline for submission to ITU-R WP5B is November 11, 2013. 12
13. The Secretariat is requested to arrange an appropriate IALA representation to present the documents e-NAV14-17.1.3.4 and e-NAV14-17.1.3.5 at the WP5B meeting as requested by ITU WP5 B. 12
14. The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.1 as an input document to e-NAV15. 13
15. The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.2 to all IALA Committees for comment. 13
16. The Secretariat is requested to forward the Information Paper e-NAV14-17.2.3.2 to e-NAV15. 13
17. The Secretariat is requested to forward the Information Paper e-NAV14-17.1.3.1 to Council for approval. 13
18. If approved, the Secretariat is requested send the Information Paper e-NAV14-17.1.3.1 to all IALA Committees. 13
19. The Secretariat is requested to forward Information Paper e-NAV14-17.1.3.6 to Council for approval. 14
20. Following approval of Council, the Secretariat is requested to send the Information Paper e-NAV14-17.1.3.6 to all IALA Members, CIRM, IEC, and RTCM to encourage participation in the work on the VDES concept. 14
21. The Secretariat is requested to forward Working Paper e-NAV14-17.2.5.1 to e-NAV15. 14
22. The Secretariat is requested to forward Output Paper e-NAV14-17.1.5.2, recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective, to other IALA Committees and PAP for comment. 15
23. The Secretariat is requested to send the revised “Recommendation e-NAV140 on the overarching e-Navigation architecture – the shore perspective” (e-NAV14-17.1.5.2) to e-NAV15 as an input paper. 15
24. The Secretariat is requested to forward e-NAV14-17.1.5.1 to other IALA Committees and PAP for comment. 15
25. The Secretariat is requested to send the revised “Recommendation e-NAV-[x] on the Common Shore Based System Architecture (CSSA) system layout” (e-NAV14-17.1.5.1) to e-NAV15 as an input paper. 15
26. The Steering Group of the CSSA Workshop is requested to take the draft revision of IALA Recommendation e-NAV140 and the draft new recommendation on the CSSA System Layout into consideration when planning the CSSA Workshop. 15
27. The Steering Group of the CSSA Workshop is requested to consider focusing the content of the Workshop on the generic service model of the CSSA (input documents e-NAV14-12.2.6 to e-NAV14-12.2.11 refer). 15
28. The Secretariat is requested to forward input papers e-NAV14-12.2.1 to e-NAV14-12.2.4, and e-NAV13.2.1 to e-NAV15 as input documents. 16
29. The Secretariat is requested to send the Guideline on Producing an IALA S-100 Product Specification, output document e-NAV14-17.1.6.1 to Council for approval 17
30. The Secretariat is requested to send the liaison note e-NAV14-17.1.6.2 to the VTS, ANM, EEP Committees and PAP. 17
31. The Secretariat is requested to send the revised guideline 1087, output document e-NAV14-17.1.6.3 to Council for approval. 17
32. The Secretariat is requested to forward e-NAV14-17.2.6.1 to e-NAV15. 17
33. The Secretariat is requested to send working papers e-NAV14-17.2.6.2, e-NAV14-17.2.6.3 and e-NAV14-17.2.6.4 to the task group for the development of product specifications for further completion by email correspondence. 17
34. The Secretariat is requested to forward revisions for the IALA NAVGUIDE (e-NAV14-17.1.0.4) to ANM21. 18
35. The IALA Secretariat is requested to forward the draft guideline on the reporting of results of e-Navigation testbeds (e-NAV14-17.1.7.1) to the IALA Council for approval. 18
36. If the guideline on the reporting of results of e-Navigation testbeds (e-NAV14-17.1.7.1) is approved by the Council, the IALA Secretariat is requested to submit it to the IMO Correspondence Group on e-Navigation. 18
37. The IALA Secretariat is requested to incorporate the contents of Annex 2 of the guideline on reporting of testbed results (e-NAV 14-17.1.7.1) into web-based, on-line PDF and paper forms, which can be used to provide information on testbed results to IALA. Once developed, these forms are to be sent to Thomas Porathe (Thomas.Porathe@chalmers.se) for posting on the e-Navigation.net portal. 18
38. Once testbed reporting forms have been posted on the e-Navigation.net portal, the IALA Secretariat is requested to correspond with the IALA membership, encouraging the reporting of e-Navigation testbed results to IALA Secretariat. 19
39. The IALA Secretariat is requested to forward the liaison note (e-NAV14-17.1.7.2) on the e-Navigation.net portal to the next meeting of the Policy Advisory Panel (PAP). 20
40. The IALA Secretariat is requested to inform the IALA membership of the creation of an IALA e-Navigation forum on testbeds on LinkedIn and encourage participation. 20
41. The Secretariat is requested to forward the e-NAV Committee work programme e-NAV17-17.1.0.1 to the Council for noting. 21
42. The Secretariat is requested to forward the e-NAV Committee work plan for 2014-2018 (e-NAV14-17.1.0.3) to the PAP. 21
43. The Secretariat was requested to submit WWA L1 Model Course 1.4 on an introduction to e-Navigation 2013 (Rev 1) (e-NAV14- 17.1.0.2) to EEP21 for endorsement. 21
44. The Secretariat is requested to forward the report of e-NAV14 (e-NAV14-19) to the Council, to note. 21

***Action items for members***

1. [David Patraiko was requested to co-ordinate a correspondence group (e-NAV14-17.2.1.5) to contribute to the SIP discussion by correspondence and submit results to e-NAV15. 8](#_Toc370495603)
2. [Michael Bergman is requested to develop introductory test and explanatory notes on the topic of portrayal of information and forward this to Thomas Poranthe, webmaster of www.e-Navigation.net. 9](#_Toc370495604)
3. [Committee members are requested to consider the content of the draft R-121 Draft 4 eNAV14 WG2 Review v2 (e-NAV14-17.2.2.1) and to provide feedback to the WG2 Vice Chair Michael Hoppe (Michael.Hoppe@wsv.bund.de) by the end of January 2014. 10](#_Toc370495605)
4. [WG2 members are requested to consider the content of the draft broadcast standard version 2.4 and the RSIM standard 1.3 and provide comments to the WG2 Chair by the end of January 2014. 10](#_Toc370495606)
5. [Committee members are requested to contribute to CSSA generic service model at CSSA Workshop and at e-NAV15. 15](#_Toc370495607)
6. [The Vice Chair is requested to establish a task group and coordinate the work on the AtoN information Product Specification. 17](#_Toc370495608)
7. [Thomas Porathe is requested to make changes to the e-Navigation.net portal based on the items listed under Agenda Item 14.3 in the report of e-NAV14. 19](#_Toc370495609)
8. [The Republic of Korea is invited to provide summary information and the presentation made at IMO NAV59 on SMART e-navigation to Thomas Porathe for posting on the e-Navigation.net portal. 19](#_Toc370495610)
9. [The Republic of Korea is invited to conduct a feasibility study on the possibility of using a common platform for a global testbed and provide a report to the IALA Secretariat for further development of the concept within the IALA committee structure during the 2014-18 work programme. 19](#_Toc370495611)
10. [IALA members, in particular members of the e-Navigation Committee, are invited to contribute to the Republic of Korea-led study (email contact: jin.h.park@kiost.ac ) on the possibility of using a common platform for a global testbed. 20](#_Toc370495612)
11. [Thomas Porathe is requested to create a section on the e-Navigation.net portal titled ‘e-Navigation explained’ and populate it with the latest version of the approved IALA e-Navigation FAQs. The section should be marked ‘under construction’ until the e-Navigation.net portal project plan is implemented. 20](#_Toc370495613)