



## **Report of the 13<sup>th</sup> Meeting of the e-Navigation Committee**

**18 – 22 March, 2013**

### **Executive Summary**

- 108 people (a record number for a meeting at IALA), from 29 countries and 6 sister organisations, attended this meeting of the e-NAV Committee, of which 21 members were new and 1 was an observer;
- The Committee considered 70 input papers;
- 23 output papers including:
  - 1 draft Guideline;
  - e-Navigation Architecture FAQ;
  - 1 workshop proposal;
  - 2 Council Information Papers;
  - 12 Liaison notes, including 3 to the IMO CG on e-Navigation, 3 to ITU and 2 to the PAP25 / Strategy meeting.
- There was a vigorous debate about the scope of IALA's involvement in e-Navigation;
- The recurring need to have dedicated IALA representation at ITU-R WP5B was discussed but a long-term permanent solution is not yet apparent;
- There were significant IT and AV issues that affected the Committee's ability to work;
- Changes were proposed to the Work Programme (e-NAV13/output/2).

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e-NAV Committee

13<sup>th</sup> Session

22 March, 2013

## Report of the 13<sup>th</sup> Session of the IALA e-NAV Committee

### GENERAL

The 13<sup>th</sup> meeting of the **e-Navigation Committee** was held from 18 – 22 March, 2013 at IALA, with Bill Cairns as Chairman and Nick Ward as Vice-Chairman. The Secretary for the meeting was Mike Hadley.

#### Opening

The Chairman introduced the Secretary-General, who welcomed everyone and then brought the Committee up to date with IALA's recent e-Navigation activities. Appreciating the time pressure, he then wished the members a successful meeting.

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

### 1 AGENDA

The draft agenda (e-NAV13/1 rev8) was adopted.

#### 1.1 Apologies

Apologies were received from:

Name	Organisation	Country
Jorge Arroyo	USCG	USA
Marek Dziewicki	Urząd y morski	Poland
Andy Fuller	IMSO	
Ole Hansen	CIRM	
Peter Hooijmans	RWS	The Netherlands
Bill Kautz	USCG	USA
Dave Leewald	USCG	USA
Yoshio Miyadera	JRC	Japan
Brian Tetreault	US Army Corps of Engineers	USA

**1.2 Programme for the week**

Paper e-NAV13/4 rev1 refers.

### 1.3 Safety & Administration

The Secretary then provided a Safety and Administrative brief and drew attention to some Late and Very Late papers, which had been posted to the ftp server and Committee website.

## 2 REVIEW OF ACTION ITEMS FROM e-NAV12

Paper e-NAV13/2 refers. It was noted that the action items from e-NAV12, for the IALA Secretariat, were mostly complete.

**Action 20** The Secretariat is requested to raise the question of topic responsibility for disaster recovery at PAP24.

This action is on-going and is due to be discussed at PAP25.

For members' actions, the following comments were made:

**Action 66** The Chairman of WG1, in liaison with the Chair of WG5, is requested to prepare, inter-sessionally, an input document on the 'e-Navigation Platform Suite' to e-NAV13, using e-NAV12/84 as a starting point but taking into account relevant input from all interested members of the Committee.

#### *Action item*

*The Secretariat is requested to forward input document e-NAV13/68 (formerly e-NAV12/84) 'e-Navigation Platform Suite' or '7-pillars of e-Navigation @ e-navigation.net' to e-NAV14 for further consideration.*

**Action 67** The Chairs of WGs 1 & 5, together with interested members of the Committee, are requested to investigate, inter-sessionally, with the Danish Maritime Authority options to use the existing IALA web-page 'e-Navigation.net' as a focal point for the emerging e-Navigation international movement as described in e-NAV12/84 and report / present their findings at e-NAV13.

Jan-Hendrik Oltmann, also on behalf of David Patraiko, reported about liaison with the Danish Maritime Authority, in regard to e-NAV13/68 (formerly e-NAV12/84). It was reported that DMA is prepared to structure the existing e-navigation.net web-site, in accordance with the concept and principles laid out in e-NAV13/68 provided that the e-NAV Committee agrees. The Chair requested Committee approval, in plenary, which was given

#### *Action items*

*The Chairs of WG5 (Jan-Hendrik Oltmann) and WG1 (David Patraiko) are requested to continue their liaison with Danish Maritime Authority (DMA) with the goal to structure the existing web-site e-navigation.net in accordance with the concept and principles laid out in e-NAV13/68 (formerly e-NAV12/84) and report to e-NAV14.*

*Members are requested to provide draft input to the web-site e-navigation.net in accordance with the concept and principles laid out in e-NAV13/68 (formerly e-NAV12/84) to e-NAV14.*

**Action 70** Committee members are requested to contribute suggestions for inclusion in the 2014 – 2018 Work Programme as inputs to e-NAV13.

As no input papers had been received, the Committee was asked to provide any thoughts directly to the Vice Chairman.

**Action 72** The Chairman is requested to liaise with RTCM about its post 2013 meeting programme.

The Chairman reported that a discussion had taken place and although the September 2013 clash could not be avoided it looked as though it should be avoided from 2014 onwards.

### **3 REVIEW OF INPUT PAPERS & INTER-SESSIONAL WORKING GROUP REPORTS**

Papers e-NAV13/3 rev8 refers.

The Chairman asked the Chairs of Working Groups (WG) to outline their expectations for the meeting. Agreement was reached on which WGs papers would be sent to and which WG would take the lead, where a response was required.

Subsequently, as requested by the Canadian Coast Guard (e-NAV13/47, paragraph 5) the Chair of WG5 subsequently liaised with Ms Natacha Riendeau (CCG) on behalf of the e-NAV Committee, in order to provide feedback from the on going work of WG5 in regards to the concept and structure of Maritime Service Portfolios (MSPs). As a result, a concurrent approach to the MSPs was recognized. Jan-Hendrik Oltmann, acting as a representative of the ACCSEAS project, introduced the relevant findings of the first ACCSEAS User Forum (see section 5.2) regarding the envisaged North Sea Region Maritime Service Portfolios plan to Ms Natacha Riendeau.

#### *Action items*

*The Canadian Coast Guard representative to the e-NAV Committee is invited to present relevant findings and results in regard to their on going MSPs planning to one of the next e-NAV Committee meetings.*

*The Canadian Coast Guard representative to the e-NAV Committee is invited to consider closer interaction with the ACCSEAS project in regard to the Maritime Service Portfolios (MSPs) concept, structure and MSPs regional planning.*

*Committee members are requested to contact Natacha Riendeau with any comment about input paper e-NAV13/47 via [Natacha.Riendeau@dfo-mpo.gc.ca](mailto:Natacha.Riendeau@dfo-mpo.gc.ca).*

### **4 REPORTS FROM OTHER BODIES**

#### **4.1 IALA Council 54<sup>rd</sup> session**

The report (e-NAV13/21) was noted, in particular, the:

- statement by IMO Secretary-General of the important contribution that IALA is making with respect to Navigational Safety;
- IMO and IALA are expecting to collaborate on a number of important issues in the future, on both the fronts of technology development and capacity building;
- IALA has identified Governance as a strategic work area and is making a number of improvements in respect of administration and financial management.
- the Secretary-General has been requested to send an Annual report with each subscription invoice;
- looking at the state of progress with the Committee's tasks, which reflected much good work, there were signs that the Committees were overloaded;
- the VTS and e-NAV Committees have been tasked to include a CPAF monitoring item in their work programmes;

- IALA should consider hosting a forum for those interested in resilient PNT&F (position, navigation, time and frequency);
- comments in section 9.2 (e-Navigation);
- the decision by IMO to change the terminology of AIS AtoN to Real, Synthetic and Virtual to Physical and Virtual, whilst the ANM Committee is still working with the original three types. However, it was pointed out that the IMO Correspondence Group dealing with this issue has yet to complete its work;
- favourable reaction to an IALA presence at ITU WP5B;
- the new IALA website should include a zero cost registration before a download is enabled and that the Council would reconsider the pricing policy when sufficient statistics are available.

Nick Ward added that IALA has applied to become a Submitting Organisation and Domain Owner, under the IHO GI registry. This has been approved 'in principle' by IHO.

#### **4.2 Report of PAP24**

The Committee noted the report (e-NAV13/11). Specifically:

- the Chairmen of each Committee are requested to consider priorities for the drafting of product specifications for discussion at PAP25;
- the e-NAV Committee is requested to consider the feasibility of creating an AIS Manual;
- Nick Ward is requested to consider how to draw together AIS documentation and provide input to PAP25;
- all Committees are requested to make the IALA Dictionary a standing agenda item;
- all Committees are requested to devise a plan for the periodic review of their Recommendations and Guidelines and build it into their Work Programme proposals for 2014 – 2018;
- all members of PAP are requested to consider issues involving documentation and be prepared to discuss the topic at PAP25;
- reminder about high-definition graphics and a request for suggestions about new topics for the IALA Bulletin;
- observations by DSG about Committee structure;
- the PAP is requested to consider the Committee structure for 2014 - 2018, in time for discussion immediately before PAP25
- preparing for the 2014 – 2018 Work Programme;
- setting of a baseline fee for workshops / seminars;
- succession planning.

#### **4.3 Report of MSC91**

Paper e-NAV13/23 refers. The Committee noted the observations in section 11.

- the future development of specific requirements for voyage planning for passenger ships (item 2)

- the continuation of the preparation of the Mandatory IMO Audit Scheme (item 5)
- the discussion on operating anomalies within ECDIS (item 6.2)
- the final adoption of resolution MSC.347(91) containing the 'Recommendation for the protection of the AIS VHF data link' (item 6.3)
- the decision regarding the new agenda item for the NAV Sub-Committee on application of the satellite navigation system 'BeiDou' in the maritime field (item 7.2).
- the adoption of safety of navigation as one of the four priorities for the IMO Technical Co-operation Programme for 2014 (item 8)

#### **4.4 Report from VTS37**

Paper e-NAV13/70 refers.

The 37th session of the Committee was held from 3-7 September 2012 at IALA.

Pieter Paap drew the Committee's attention to the written report and then encouraged the Committee members to consider attending the VTS portrayal workshop, which is being held in Bremen from 6 to 9 May 2013. He indicated that the brochure for the workshop is available from the IALA website.

#### *Action item*

*Committee members are requested to consider attending the VTS Portrayal workshop in Bremen from 6 to 9 May, 2013*

### **5 PRESENTATIONS**

Seven presentations were made during the meeting, all during the opening plenary session. The presentations form part of the output from the meeting.

#### **5.1 World-Wide Academy update**

The presentation was made by Stephen Bennett, Programme Manager for the IALA WWA.

During the meeting it was reported that three IALA AtoN experts had been registered.

#### **5.2 ACCSEAS**

The presentation was made by Nick Ward, GLA R&RNAV.

As a result of the presentation there was a short discussion concerning Head up displays (HUD). It was reported that ACCSEAS has yet to finalise the form that it will propose. It was also mentioned that an ACCSEAS video is available via the ACCSEAS website [www.accseas.eu](http://www.accseas.eu) / about ACCSEAS. It is also forms part of the output of the meeting.

Jan-Hendrik Oltmann, representing WSV, as one of the partners of the ACCSEAS project, added that one goal of the ACCSEAS project is to create a first draft of a Route Topology Model (RTM) for the North Sea Region (NSR) using the framework of IHO S-100. Another goal is a first draft of a Maritime Service Portfolios (MSPs) plan for the NSR, and that the example of the Canadian Coast Guard (compare e.g. e-NAV10/7/2) has been analysed and evaluated to that end. He also reported that the question to which entity(ies) MSPs should be applied is being studied in the ACCSEAS project. He told that the first User Forum at the Annual ACCSEAS Conference 2013 has provided guidance that MSPs should be applied to the 'legs', 'junctions', and 'nodes' of the above NSR-RTM which in turn would be associated with discernable

traffic-patterns in addition to voyage phases; only in the absence of the above options should MSPs be applied to blanket coverage areas. Jan-Hendrik Oltmann concluded that there may be a synergy between the work of the Committee in regard to MSPs and the work of ACCSEAS.

#### *Action item*

*The Vice Chairman is requested to invite the ACCSEAS project to present relevant findings and results to future e-NAV Committee meetings.*

### **5.3 A methodology to measure the effectiveness of MSP**

The presentation was made by Professor Yung-Ho Yu, KMU, Korea.

It was proposed that the 'seven pillars' of e-Navigation, act as an MSP framework. Experimental study, using a ship handling simulator to measure the effectiveness of MSP with the control allowance of engine revolutions and the rudder angle and the Closest Point of Approach from a reference position was presented.

### **5.4 Project ARIADNA**

The presentation was made by Marcos Lopez, GMV, Spain.

In the following discussion, the aim and manner of operation of the protective 'volumes' created around ships was covered in terms of minimizing avoiding collisions and maximizing the use of infrastructures.

The project provides geo-referenced volumes around the own vessel taking into account current on board navigation systems and sensors, <http://www.ariadna-fp7.eu/>. Volumes are transmitted on the AIS channels, according to 289 circ., providing warning for situational awareness when volumes interact each other. The system will support to increase safe navigation in dense traffic situations in ports, rivers, channels, lock, port access areas, and improves risk control, including grounding, thanks to its 3D calculation.

There was a query about how the required ARIADNA equipment would be implemented without a carriage requirement and it was confirmed that the validation and results of project ARIADNA do not depend solely on AIS data. Vienna (Donau) and Algeciras (strait of Gibraltar) are the main test beds areas where ARIADNA is validated.

Another goal discussed was the potential use of ARIADNA volumes for ship owners, maximization of safety and infrastructure.

### **5.5 Project MONALISA 2.0**

The presentation, which contained a video clip, was made by Ulf Svedberg, SMA, Sweden.

The submission of the project, for joint funding by the European Commission is due by the end of March 2013.

### **5.6 Project MUNIN (Maritime Unmanned Navigation through Intelligence in Networks)**

The presentation was made by Thomas Porathe, Chalmers University, Sweden.

The subsequent discussion provided a variety of the comments that Thomas Porathe said that he was hoping that the presentation would forewarn, particularly regarding unmanned ships.

### **5.7 Methodology for Identification and Validation of New User Needs & Solutions**

The presentation was made by Robert Tremlett, on behalf of the NCA.

It was noted that post-2014 acceptance of the Strategy Implementation Plan at IMO, it would be good to have a methodology for assessing new user needs.

Subsequent discussion focused on possible routes to implementation and the need to avoid new user requirements for the IMO Strategy Implementation Plan whilst it is being finalised.

The Chairman closed this agenda item by thanking all the presenters for their presentations.

## 6 ESTABLISH WORKING GROUPS

Seven working groups were established, as outlined below:

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

It was agreed that when the Committee was not in plenary session the Working Groups would meet separately, throughout the week, with Working Groups 3 and 4 now being effectively combined.

It was accepted that there would, inevitably, be some cross-over in personnel between the groups.

## 7 WORKING GROUP 1 – OPERATIONS

The committee noted that the main task for the working group was to provide feedback to the IMO Correspondence Group (and include input from all other working groups). Also, the committee would review the chapter on e-Navigation in the IALA NAVGUIDE and the e-Navigation FAQs.

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

The Working group was requested to provide feedback to the Chairman of the IMO Correspondence Group on e-Navigation on identifying infrastructure and test beds.

The working group noted the request by the co-ordinator of the IMO CG (e-mail to IMO CG 8 Feb 2013) to consider:

- 1 *Technical infrastructure that will provide the backbone of the e-navigation prioritized solutions, which could enable reliable and efficient sharing of maritime data ship-ship, ship-shore, shore-ship and shore-shore.*
- 2 *Test-beds under each prioritized main potential solution that utilise/demonstrate the infrastructure, with the human element in focus.*

*Members of the CG are invited to provide inputs on e-navigation technical infrastructure and test-beds before 29 April 2013.*

It was noted that this information would assist an initial cost-benefit analysis prior to NAV 59. WG1 produced a template for all WGs to populate 'infrastructure and test-bed' issues based upon the IMO e-Navigation CG document 'FSA steps 1-3' provided to the CG on 13 Feb 2013. The intention was to capture issues pertinent to the work of IALA, particularly issues covered by the IALA World Wide Radio Navigation Plan and the IALA Maritime Radio Communications Plan. The coordinated response from the Committee is contained in Output e-NAV13-Output03.

It was specifically commented on however, that the Cost/Benefit Analysis should clearly identify the balance of who would bear the costs and who would reap the benefits.

The WG noted and further discussed the presentation by Robert Tremlett on behalf of the NCA (in plenary) on the subject of a methodology for identifying 'new' user needs, intended to be used post 2014 IMO acceptance of the Strategic Implementation Plan (SIP). It was also noted that the IMO required the SIP to address 'A plan for the development of any technology and institutional arrangements necessary to fulfil the requirements of e-navigation in the longer term' (NAV58/6) and that such an approach to identifying new user needs might be appropriate.

#### *Action Item*

*The Secretariat is requested to forward the liaison note (e-NAV13/output/3) to the IMO CG on e-Navigation prior to 29 April 2013.*

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

The 'road map' for e-Navigation developed at e-NAV10 was reviewed, together with the Chair and Vice Chairman. It was noted that the road map (e-NAV13/output/13) will remain within IALA and be further developed by the Committee.

Input papers e-NAV13/40 and e-Nav13/45 concerning 'Software Quality for Onshore Systems' were reviewed. It was agreed that the subject of software and data quality were important for the future of e-Navigation, and should be further developed by IALA for onshore systems and services. It was further noted that:

- although ships and shore did not need the exact same standards, the approach and levels of quality for e-Navigation systems and data should be harmonised so as to be complementary and compatible;
- the IMO have a range of 'safety of navigation' circulars covering issues of software quality for bridge systems and navigational equipment;
- there are a number of tried and tested software quality standards that exist, and it was important to choose the 'right one' for shore based systems and to implement it effectively;
- it was highly recommended that when developing a software quality standard it was beneficial to 'Keep it Simple'.

The Committee prepared a Working Paper on 'Software Quality for Onshore Systems (e-NAV13/WG1/WP1) for further development at e-NAV14.

#### *Action Item*

*The Secretariat is requested to forward the road map for e-Navigation (e-NAV13/output/13) to e-NAV14.*

*The Secretariat is requested to forward the working paper on 'Software Quality for Onshore Systems' (e-NAV13/WG1/WP1) to e-NAV14.*

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

This task was not addressed at e-NAV13.

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

This task was not addressed at e-NAV13.

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

This task was completed at e-NAV9.

**7.6 Prepare recommendations and guidelines on the portrayal of information (Task 26\*)**

The Committee recommended that 'Draft Guidelines on the Portrayal of e-Navigation Information' (e-NAV12/output/31) become an 'Information Paper' that can be shared within and outside IALA, and be maintained by IALA as appropriate.

*Action Item*

*The Secretariat is requested to forward paper e-NAV12/output/31 to e-NAV14.*

*The Secretariat is requested to forward paper e-NAV13/64 & e-NAV13/65 to e-NAV14.*

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

This is an on going task for the committee. The expectation is that those interested in these topics will continue to participate in the work of the Committee.

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

This new task emanated from session 54 of the IALA Council. However, the CPAF is not due to meet until June 2013.

**7.9 Update Frequently Asked Questions (FAQs)**

This task was not addressed at e-NAV13 due to no significant changes taking place in the last 6 months, however it is anticipated that at e-NAV14 (post IMO NAV 59) there may be updates to record.

**7.10 Update the IALA NAVGUIDE**

The Committee reviewed the relevant content of the current (2010 edition) of the IALA Aids to Navigation Manual (NAVGUIDE). It noted that:

- the work of the IMO Correspondence Group on e-navigation was in progress; and
- the deadline for completing this task was October 2013 (post e-NAV14).

Therefore, the committee agreed to progress this task at its next session (e-NAV 14).

*Action Item*

*The Secretariat is requested to forward the paper on the IALA NAVGUIDE (e-NAV13/output/14) to ANM20.*

### 7.11 Future Work Programme

The Committee reviewed the current work programme tasks for WG1 'Strategy and Operations' (2010-2014) and made recommendations for the work programme (2014 – 2018) should WG1 be reconvened. These were passed to the Vice Chairman, who is collating this information.

### 7.12 Working Group 7 – Testbed

#### 7.12.1 Develop terms of reference and work program

The Committee reviewed the draft terms of reference and work program as submitted to e-NAV13 (e-NAV13/52 refers). It made changes to the draft and developed a work program for the forthcoming sessions.

#### *Action Item*

*The Secretariat is requested to forward the terms of reference and work program for WG 7 (e-NAV13/output/10) to the IALA Council and all other IALA committees and PAP for their information.*

#### 7.12.2 Development of discussion paper on testbeds

Based on an exchange of views (both at e-NAV13 and earlier via e-mail between interested parties), information provided by Denmark on a technical infrastructure testbed (e-NAV13 / 63 refers), the committee developed a discussion paper on testbeds (e-NAV13/output/11 refers).

#### *Action Item*

*The Secretariat is requested to forward the discussion paper on test beds (e-NAV13/output/11) to the IALA Council and all other IALA Committees and PAP for their information and comment.*

*IALA members are requested to forward any information on current and completed testbeds and any R&D projects to Thomas Porathe (Danish Maritime Authority) via the IALA Secretariat by 30<sup>th</sup> June 2013.*

#### 7.12.3 Develop preliminary guidance on testbeds for the IMO Correspondence Group on e-Navigation

The Committee developed preliminary guidance on the harmonisation of requirements and results of testbeds (e-NAV13/output/12). These are being forwarded to the IMO Correspondence Group on e-Navigation.

#### *Action Item*

*The IALA Secretariat is requested to forward the liaison note containing preliminary guidance on testbeds (e-NAV13/output/12) to the Co-ordinator of the IMO Correspondence Group on e-Navigation.*

## 8 WORKING GROUP 2 – PNT (WG2)

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

The World Wide Radio Navigation Plan has been updated and this work is now complete.

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

The Committee worked on an update to IALA Recommendation R-121 'Performance and Monitoring of DGNSS Services in the Frequency Band 283.5 – 325 kHz'. The update is not complete and will continue, via email correspondence, in order to develop a final draft for input to e-NAV14.

Amendments to the NAVGUIDE were provided to WG1.

An update from the ITU on Technical parameters of radar target enhancers (Recommendation ITU-R M.1176-1) has been reviewed. Comments on this document have been captured in a liaison note to the ITU (e-NAV13/output/15).

#### *Action Item*

*The Secretariat is requested to forward e-NAV13/output/15 (Liaison note on the technical parameters of radar target enhancers) to Council for approval.*

*If approved, the Secretariat is requested to send e-NAV13/output/15 (Liaison note on the technical parameters of radar target enhancers) to ITU Radiocommunication Study Group 5.*

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

An update on the January RTCM SC104 committee meeting was noted.

A draft performance standard for shipborne receiving equipment using multiple radionavigation systems has been prepared for consideration by IMO NAV (e-NAV13/output/16) when completing this work item at NCSR 1.

#### *Action Item*

*The Secretariat is requested to forward the Information Paper on a proposed new unplanned output on multiple radionavigation systems for NCSR 1 (e-NAV13/output/16) to Council for approval of the content and to encourage their IMO National Members to support the proposal.*

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

Preparation work on this Guideline was completed within this session and a work plan has been developed so that a final draft will be submitted as an input to e-NAV14.

#### *Action item*

*The Chairman of WG2 is requested to provide a final draft Guideline on establishment and operation of navigation systems in polar regions to the Secretariat as an input to e-NAV14.*

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

A discussion on the recent ACCSEAS resilient PNT demonstrations was noted.

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

A liaison note on disaster recovery (e-NAV13/output/17) has been developed to inform the other IALA committees of this work and to invite them to consider what additional information they can provide. It is also suggested that the ANM Committee become the custodians of this topic and that it be included in the NAVGUIDE.

#### *Action Item*

*The Secretariat is requested to forward the liaison note on disaster recovery (e-NAV13/output/17) to ANM20, EEP20, VTS37 & PAP25.*

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

No work was completed on this topic during this session.

## 8.8 Additional Items

The Working Group considered the PNT infrastructure and testbeds and provided feedback to WG1, as part of the overall input to the IMO e-Navigation Correspondence Group on e-Navigation.

It also considered that the current work programme and identified that all tasks should be complete by the end of e-NAV14.

## 9 WORKING GROUPS 3 & 4 - AIS & COMMUNICATIONS

All relevant input documents were reviewed by the group and the main focus of the work was the inputs to ITU-R WP5B regarding future Data Communication and the Draft Revision of ITU-R M. 1371-4.

A proposal for the work program, with regard to AIS and communication issues, for the IALA work period 2014-18 was developed.

Presentations were made by

- 1 Hideki Noguchi, JCG, on the outcome of the workshop on international standardisation of next generation AIS that was held in Tokyo in December 2012. (Document e-NAV13/37 and 38 refers). The conclusions from the workshop were to a large extent accepted by the WG and have been taken into account in its work.
- 2 Jean Francois Coutu, CCG, who presented the Canadian concept of operations for e-Navigation (Document e-NAV13/47 rev 2 refers). It was in particular noted that the data communication between ship and shore can be limited by exchanging as much data as possible while the ship still is in port and shore based communication systems can be used.
- 3 Jens Jensen, DMA, who introduced Input Document e-NAV13/63 (information paper) explaining considerations derived from ongoing work in the ACCSEAS project, on a technical infrastructure, supporting a test bed for e-Navigation services in the North Sea Region. The 'e-Navigation cloud' will contain a 'Maritime Intranet' connecting all ship and shoreside actors in a seamless logical network, regardless of changing communication channels, and become an infrastructure test bed in itself. It will support global information transfer without geographical limitations, availability of a global 'whitepages/yellowpages' directory of identities and services, as well as secure information transfer where needed. Considerations are given to prioritization of safety, security or even emergency communication, and a possible relation to the development of VDES. DMA welcomed feedback, as the considerations are intended to be fed into the IMO e-Navigation Correspondence Group in April 2013.

The AIS and Communications WG plan for an inter-sessional meeting before e-NAV14 (Proposed date August 26-30 in Brest, France). The main topic is to develop further inputs to ITU-R 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 the IALA Committee work stops for one year.

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

A draft Guideline on the Harmonised Implementation of ASM was finalised (e-NAV13/output/4) . The Guideline describes how ASMs should be implemented in a harmonised manner, following IALA Recommendation e-NAV-144 on Harmonized implementation of Application Specific Messages (ASM).

*Action Item*

*The Secretariat is requested to forward the Guideline on Harmonised Implementation of ASM (e-NAV13/output/4) to the Council for approval.*

At the request of IALA LAP a Liaison Note regarding the reliability of AIS Data when used in court cases (e-NAV13/output/7) was developed. The document describes possible sources of incorrect information in the AIS data and concludes that AIS has a high probability for transfer of data but that the validity of data can't be guaranteed. The document is primarily focused on AIS AtoN and does not necessarily reflect the overall reliability of AIS as a system. It is not recommended that this document is the final answer. If LAP intend to develop a Guideline on the use of AIS data in court, further work is needed.

#### *Action Item*

*The Secretariat is requested to forward the Liaison Note regarding the reliability of AIS Data when used in court cases (e-NAV13/output/7) to LAP.*

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

A Liaison statement from ITU-R.M WP5B regarding the previously submitted Draft Revision of ITU-R M. 1371-4 was answered in a liaison note to ITU on ITU-R M. 1371-4 (e-NAV13/output/5).

The answer gives a rationale for allowing transmission of Msg 27 for satellite detection from AIS Class B SOTDMA and AIS SAR devices. It is shown that the impact of such transmissions to the capacity of long-range detection would be low.

It is also noted that AIS SAR devices are not alerting devices, these devices are locating devices.

#### *Action Item*

*The Secretariat is requested to forward the liaison note to ITU on ITU-R M. 1371-4 (e-NAV13/output/5), to Council for approval by email, with a deadline of 10 May, 2013.*

*If approved, the Secretariat is requested to send the liaison note to ITU on ITU-R M. 1371-4 (e-NAV13/output/5) and the Draft Revision of ITU-R M. 1371-4 to ITU WP5 B by 20 May, 2013.*

*The Secretariat is requested to arrange appropriate IALA representation at the ITU-R WP5B meeting, as requested by ITU.*

### **9.3 Monitor and contribute to the efficient utilization of AIS, development of future VHF Data Exchange (VDE) and technical standards (Task 14\*)**

This item was not progressed at this meeting.

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

This item was not progressed at this meeting.

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

This item was not progressed at this meeting.

## **10 WORKING GROUP 4 - COMMUNICATIONS**

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

This task was completed at e-NAV12.

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

This item was not progressed at this meeting.

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

A liaison note to ITU-R WP5B regarding future data communications (e-NAV13/output/6) was developed. The liaison is based on previous inputs to ITU-R WP5B and includes the developments made since e-NAV12. The concept of VHF Data Exchange System (VDES) is introduced. This system includes AIS, dedicated ASM channels and VDE. Further on it is proposed to include a possible satellite component of VDE, to be used on high seas, outside the coverage of shore-based stations.

The liaison note (e-NAV13/output/6) includes two Annexes:

- 1 Plan for future VHF data communications (e-NAV13/output/6A).
- 2 Working document towards a preliminary draft new report on AIS VHF Data Link (VDL) loading (e-NAV13/output/6B).

The liaison note is intended to be the basis for a future CPM report and contains the background for the need for protection of the VDL, gives a rationale for a VDES, and adds more information (in track changes) to the previous description of that system. The need and plans for sharing studies are described.

The Committee encourages national membership to support this liaison at ITU and to support necessary studies and trials and provide the results to the e-NAV Committee and to ITU-R WP5B.

**Action Item**

*The Secretariat is requested to forward the liaison note to ITU-R WP5B regarding future data communications (e-NAV13/output/6, e-NAV13/output/6A, & e-NAV13/output/6B), to Council for approval by email, with a deadline of 10 May, 2013.*

*If approved, to send the liaison note to ITU-R WP5B regarding future data communications (e-NAV13/output/6, e-NAV13/output/6A, & e-NAV13/output/6B) to ITU WP5 B by 20 May, 2013.*

*The Secretariat is requested to arrange appropriate IALA representation at the ITU-R WP5B meeting, as requested by ITU.*

*Committee members are requested to seek the support of their national members at ITU-R WP5B regarding future data communications.*

The need to inform other IALA Committees and the Council on the plans for VDES, was recognized and a correspondence group, under the leadership of Hideki Noguchi, was asked to further develop an information paper with the aim of delivering it to e-NAV14 for consideration.

**Action item**

*Hideki Noguchi is requested to develop an information paper on VDES and provide it as an input to e-NAV14.*

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

This item was not progressed at this meeting.

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

This item was not progressed at this meeting.

## 11 WORKING GROUP 5 – TECHNICAL ARCHITECTURE (WG5)

The Architecture Working Group (WG 5) met in several break-out sessions. The Chair of the Architecture Working Group was Mr. Jan-Hendrik Oltmann, the Vice-Chair was Mr. Paul Mueller. The members of the Architecture Working Group are listed in Annex X. The list of relevant input documents assigned to the Architecture Working Group is given in e-NAV13/3.

### 11.1 Develop and maintain shore-based e-Navigation architecture (Task 22\*)

The Architecture Working Group progressed a draft new Recommendation on the Common Shore-based System Architecture (CSSA) (compare working document e-NAV13/WG5/WP1), that has been under consideration at the WG5 for several years, as a matter of priority with a goal to finalize the first release of the generic description of the CSSA by the end of this IALA session period (e-NAV14).

The Architecture Working Group also recognized the need to hold a workshop or seminar on the Common Shore-based System Architecture in the last week of August 2014 and drafted a proposal for that Workshop (e-NAV13/output/8) for submission to Council for their approval. The decision about whether the event will be a workshop or seminar will be made once planning has been progressed; for the moment the event is being referred to as a workshop.

The Architecture Working Group prepared an 'e-Navigation Architecture FAQ' (e-NAV13/output/9), which is intended to be released to the IALA member's web page as well as a contribution to the IALA Bulletin, following Council approval.

The work on the Structure of the Maritime Service Portfolios (MSPs) (input documents e-NAV13/24, e-NAV13/25, e-NAV13/26 and e-NAV13/47 refer) needs to await finalization of the above work on the Common Shore-based System Architecture (CSSA) and will be further progressed at e-NAV14.

During the breakout session of the WG5, the question was raised about how the shore-based part of the present GMDSS as well as of the future envisaged modernised GMDSS would be mapped to the CSSA and to the international generic MSPs, i.e. in terms of both operational and technical service spectra. The working group concluded the following: When the generic CSSA work and the fundamental understanding of the structure of the Maritime Service Portfolios (MSPs) is achieved, then it will be feasible to create application guidelines for mapping existing and/or new e-Navigation applications, such the present GMDSS and the future envisaged modernised GMDSS, to the CSSA in conjunction with the MSPs. Hence, the proposal to set up an international project to create internationally generic MSPs, as well as suggestions for MSP related test-beds (see the presentation of Jan-Hendrik Oltmann at the 2013 IALA/DMA e-Navigation Underway Conference).

#### Action Items

*The Secretariat is requested to forward output document e-NAV13/output/8 (Proposed CSSA Workshop (Hamburg, August 2014)) to Council for approval.*

*If the CSSA Workshop is approved, the Chair of the WG5 is requested to set up the Workshop Steering Group and initiate the preparations for workshop.*

*The Secretariat is requested to forward output document e-NAV13/output/9 (e-Navigation Architecture FAQ) to Council for approval.*

*If approved, the Secretariat is requested to forward e-NAV13/output/9 (e-Navigation Architecture FAQ) to the Editor of the IALA Bulletin for publication.*

*If approved, the Secretariat is requested to publish e-NAV13/output/9 (e-Navigation Architecture FAQ) on the IALA website.*

*The Secretariat is requested to forward input documents e-NAV13/24, e-NAV13/25, e-NAV13/26, and e-NAV13/47 to e-NAV14.*

*The Secretariat is requested to forward working documents e-NAV13/WG5/WP1, e-NAV13/WG5/WP2A/B, e-NAV13/WG5/WP3, e-NAV13/WG5/WP4, e-NAV13/WG5/WP5A/B/C/D/E, and e-NAV13/WG5/WP6 to e-NAV14.*

*Committee members are requested to prepare input regarding the Common Shore-based System Architecture (CSSA) and regarding the generic service model for e-NAV14 (working papers e-NAV13/WG5/WP1, e-NAV13/WG5/WP2A/B, e-NAV13/WG5/WP3, e-NAV13/WG5/WP4, e-NAV13/WG5/WP5A/B/C/D/E, and e-NAV13/WG5/WP6 refer).*

*Members are requested to prepare input regarding the structure of the Maritime Service Portfolios (MSPs) for e-NAV14 (input documents e-NAV13/24, e-NAV13/25, e-NAV13/26, and e-NAV13/47 refer).*

*Members are requested to consider the proposal to set up an international project regarding the creation of internationally generic MSPs and provide input to e-NAV14 accordingly.*

## **11.2 Prepare Recommendations and Guidelines on e-Navigation architecture (Task 23\*)**

See section 11.1.

## **11.3 Co-ordinate input to IMO, ISO, and IEC on e-Navigation architecture (Task 24\*)**

No work was done on this task during this meeting.

### *Action Items*

*The Secretariat is requested to forward input document e-NAV13/68 to e-NAV14.*

*Members are requested to prepare input regarding the ‘e-Navigation Platform Suite / Seven Pillars of e-Navigation’ and its representation in the IALA/DMA domain ‘e-navigation.net’ for e-NAV14 using the guidance in document e-NAV13/68.*

## **12 WORKING GROUP 6 – DATA MODELLING AND INTERFACING (WG6)**

### **12.1 Prepare Recommendations and Guidelines on data modelling (Task 34\*)**

Chapters of the IALA Guideline which are of importance to the S-100 Workshop, were progressed:

- IALA Product Specification Template
- IALA Product Specification Flowchart
- IALA Product Specification Flowchart description
- IALA AtoN PS including application schema

Working Papers:

- IALA S-100 Product Specification (e-NAV13/WG6/1).

At the moment there are two documents that may become IALA Product Specifications: AtoN and IVEF.

There was a discussion on the progress of these documents. Members of the WG felt that that the process of progressing these kinds of documents is very slow, due to the need to use liaison notes for inter-

committee communications. Therefore, a proposal was drafted to improve the process of preparing a PS (e-Nav13/output/18), which as it concerns cross Committee work needs to be considered by PAP.

While drafting the IALA PS template, it became apparent that a PS is actually a standard document that does not currently fit within the existing IALA document categories. A proposal was drafted for the establishment of a new category of IALA documents (e-Nav13/output/19), for consideration by PAP.

#### *Action item*

*The Secretariat is requested to forward the proposal for more efficient preparation of an IALA PS (e-Nav13/output/18) to PAP, with a view to making a proposal to Council.*

*The Secretariat is requested to forward the proposal for including the category Product Specification in the IALA document categories (e-Nav13/output/19) to PAP, with a view to making a proposal to Council.*

*The Secretariat is requested to forward the draft IALA S-100 PS (e-NAV13/WG6/1) to e-NAV14.*

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

No work was done on this task during this meeting.

## **13 WORKING GROUP 7 – TESTBEDS**

### **13.1 Develop terms of reference and work program**

The committee reviewed the draft terms of reference and work program as submitted to e-NAV13 (e-NAV13/52 refers). It made changes to the draft and developed a work program for the forthcoming sessions.

#### *Action Item*

*The IALA Secretariat is requested to forward the terms of reference and work program for WG 7 (e-NAV13-output-10) to the IALA Council and all other IALA committees for their information.*

### **13.2 Development of discussion paper on testbeds**

Based on an exchange of views (both at e-NAV13 and earlier via e-mail between interested parties), information provided by Denmark on a technical infrastructure testbed (e-NAV13 / 63 refers), the committee developed a discussion paper on testbeds (e-NAV13-output-11 refers).

#### *Action Item*

*The IALA Secretariat is requested to forward the discussion paper on test beds (e-NAV13-output-11) to the IALA Council and all other IALA Committees for their information and comment.*

*IALA members are requested to forward any information on current and completed testbeds and any R&D projects to Thomas Porathe (Danish Maritime Authority) via the IALA Secretariat by 30<sup>th</sup> June 2013.*

### **13.3 Develop preliminary guidance on testbeds for the IMO Correspondence Group on e-Navigation**

The committee developed preliminary guidance on the harmonisation of requirements and results of testbeds. These are being forwarded to the IMO Correspondence Group on e-Navigation.

#### *Action Item*

*The Secretariat is requested to forward the liaison note containing preliminary guidance on testbeds (e-NAV13-output-12) to the Coordinator of the IMO Correspondence Group on e-Navigation.*

#### **14 MONITOR AND REPORT PROGRESS ON RELATED SYSTEMS (TASK 28\*)**

There was nothing to report.

#### **15 LIAISE WITH OTHER IALA COMMITTEES AND OTHER BODIES (TASK 29\*)**

##### **15.1 NAVGUIDE 2014**

A liaison note to ANM (e-NAV13/output/20) and a draft revised NAVGUIDE e-Navigation chapter (e-NAV13/output/21) were prepared for forwarding to ANM20. The revised e-Navigation chapter will be reviewed inter-sessionally and finalised at e-NAV14.

##### *Action items*

*The Secretariat is requested to forward the liaison note about the NAVGUIDE (e-NAV13/output/20) to ANM20.*

*The Secretariat is requested to forward the draft revised NAVGUIDE e-Navigation chapter (e-NAV13/output/21) to ANM20.*

##### **15.2 IALA Dictionary**

The Chairman reminded members to refer and contribute to the IALA Dictionary, as appropriate.

#### **16 PREPARE A COMBINED IALA e-NAVIGATION PLAN (ALL COMMITTEES) (TASK 30\*)**

This task is complete.

#### **17 CONSIDER THE REGULATORY PROCESS FOR e-NAVIGATION AND RECOMMEND THE BEST APPROACH (Task 31\*)**

No work was done on this task during this meeting.

#### **18 FUTURE WORK PROGRAMME (2014 – 2018)**

Papers e-NAV13/31, e-NAV13/32, e-NAV13/33, e-NAV13/34, e-NAV13/69 refer.

The Chairman and Vice Chairman carried out an initial review of the master lists of Recommendations, Guidelines, Other publications and Model Courses, noting that there are currently no e-Navigation model courses. There is an expectation that e-Navigation model courses produced during the 2014 – 2018 Work Programme.

##### *Action item*

*The Secretariat is requested to forward e-NAV13/C&VC/WP1, e-NAV13/C&VC/WP2 & e-NAV13/C&VC/WP3 to e-NAV14.*

A draft 2014 – 2018 Work Programme was prepared (e-NAV13/output/22 and e-NAV13/output/23) for the consideration of the PAP25 / Strategy meeting in April 2013. Taking into account any comment received, it is intended that the e-NAV 2014 – 2018 Work Programme be finalised at e-NAV14.

##### *Action item*

*The Secretariat is requested to forward the draft 2014 – 2018 Work Programme was prepared (e-NAV13/output/22 and e-NAV13/output/23) to the PAP25 / Strategy meeting.*

*The Secretariat is requested to forward the draft 2014 – 2018 Work Programme (e-NAV13/output/23) to e-NAV14.*

## **19 REVIEW OF OUTPUT AND WORKING PAPERS**

Output papers were reviewed and their disposition agreed as indicated above.

### **19.1 Changes to the current Work Programme**

Paper e-NAV13/output/2 was reviewed and the changes found necessary to be represented to Council were agreed.

#### *Action item*

*The Secretariat is requested to forward the requested changes to the current Work Programme (e-NAV12/output/2) to Council for approval.*

The Chairmen thanked the Working Groups for their productive efforts during the meeting and for their comments and suggestions in plenary. He then thanked the Deputy Secretary-General, Vice Chairman, Working Group Chairs and Vice Chairs, the Secretary and the remainder of the Secretariat.

## **20 ANY OTHER BUSINESS**

### **20.1 Working Group Terms of Reference (ToR)**

The Terms of reference for WG7 will be posted to the FTP server and the Committee website; they are not intended for public consumption (see also section 7.12.1).

#### *Action item*

*The Secretariat is requested to post the ToR for WG7 (extracted from e-NAV13/output/10) to the FTP server and Committee website.*

### **20.2 Software quality assurance**

This item was discussed under agenda item 7.2.

## **21 REVIEW OF SESSION REPORT**

The report of the meeting (e-NAV13/output/1) was reviewed and approved by the Committee.

#### *Action item*

*The Secretariat is requested to forward the report of e-NAV13 (e-NAV13/output/1) to the Council, to note.*

## **22 DATE AND VENUE OF NEXT MEETING**

e-NAV14 is expected to meet from 23 – 27 September, 2013 at IALA.

## **23 CLOSING OF THE MEETING**

The Deputy Secretary-General presented the apologies of the Secretary-General, who was away on business.

In his remarks, he mentioned that the MONALISA and ACCSEAS testbeds showed the way in which e-Navigation is developing and that this has synergy with a task set by the Council, to the Secretariat, to develop a strategic plan. Such a plan is being prepared and will be discussed at PAP25, followed by the 55<sup>th</sup> session of the Council and again at PAP26. H ITU-R WP5B e noted that interaction with ITU-R WP5B is increasing and expressed his thanks to ITU and various National member representatives for their efforts. However, a permanent solution to IALA's representation at ITU-R WP5B is still be sought. The IT and AV 'challenges during the week were acknowledged, with a promise to do better. The DS-G concluded by thanking the Chairman, Vice Chairman, the Working group Chairs and Vice Chairs, some of whom had been thrust into unexpected prominence, and the Committee members for a most productive week.

The Chairman then added his thanks for what the Committee had achieved during the week, despite the IT and AV 'challenges', and then wished everyone a safe journey home, saying that he hoped to see everyone again at e-NAV14. He then declared the meeting closed.

## **24 LIST OF ANNEXES TO THE REPORT**

- 1     Agenda  
      A copy of the agenda is at Annex A.
- 2     Participants  
      A list of participants is at Annex B.
- 3     Working Groups – List of participants  
      A list of Working Group participants is at Annex C.
- 4     Input Papers  
      A list of input papers is at Annex D.
- 5     Output and Working Papers  
      A list of output and working papers is at Annex E.
- 6     Action Items  
      A list of action items is at Annex F.

**ANNEX A      AGENDA****13<sup>th</sup> Meeting of the e-Navigation Committee**

The 13<sup>th</sup> meeting of the **e-NAV Committee** will be held from 18 – 22 March 2013 at IALA.

The opening plenary will commence at 1400 hours on Monday 18 March and the closing plenary will end at approximately 1300 on Friday 22 March.

Committee Chair, Vice-Chair and Working Group Chairs are requested to meet at 1000 hours on Monday 18 March.

Work items / Tasks being addressed during this meeting are listed in Paper e-NAV12/output/2.

Change from e-NAV12.

**AGENDA**

1. Approval of the agenda
  - 1.1. Apologies
  - 1.2. Programme for the week
  - 1.3. Administration & safety brief
2. Review of action items from last meeting
3. Review of input papers & inter-sessional Working Group reports
4. Reports from other bodies:
  - 4.1. Report from IALA Council – 54<sup>th</sup> Session, December 2012
  - 4.2. Report from PAP24, October 2012
  - 4.3. Report from MSC91, October 2012
  - 4.4. Report from VTS36, March 2013
5. Presentations (15 minutes duration)
 

5.1.	WWA update	Stephen Bennett
5.2.	Maritime Service Portfolio (MSP) Management and Structure	Jan-Hendrik Oltmann
5.3.	A methodology to measure the effectiveness of MSP	Yung Ho
5.4.	ARIADNA project	Marcos López
5.5.	Project MONALISA 2	Ulf Svedburg
5.6.	Project MUNIN	Thomas Porathe
5.7.	Methodology For Identification And Validation Of New User Needs & Solutions	Robert Tremlett
6. Establish Working Groups
7. WG 1 – Operations & Strategy (User requirements)

- 7.1. Monitor and co-ordinate input on Strategy & Operations to the IMO process (Task 1\*)
- 7.2. Review and update IALA Strategy for e-Navigation (Task 2\*)
- 7.3. Maintain and update user requirements (in co-ordination with the VTS Committee) (Task 3\*) - Complete
- 7.4. Monitor developments in navigation for polar regions (Task 4\*)
- 7.5. Prepare Recommendations and guidelines on Maritime Information Systems (in co-ordination with the VTS Committee) (Task 25\*)
- 7.6. Prepare Recommendations and guidelines on the portrayal of information (Task 26\*)
- 7.7. Monitor developments in ECDIS, INS, and ENC's (Task 27\*)
- 7.8. Monitor the activities of the Competent Pilotage Authority Forum (CPAF) (Task 33\*)
8. WG 2 – PNT / Sensors
  - 8.1. Review and update the World Wide Radio Navigation Plan (Task 5\*)
  - 8.2. Prepare Recommendations and Guidelines on PNT systems and radar AtoN (Task 6\*)
  - 8.3. Co-ordinate input to IMO, ITU, and IEC on PNT systems (Task 7\*)
  - 8.4. Prepare a Guideline on establishment and operation of navigation systems in polar regions (Task 8\*)
  - 8.5. Monitor developments in satellite and terrestrial EPFSs and non-radionavigation systems (Task 9\*)
  - 8.6. Prepare a Guideline on recommended measures for disaster recovery (Task 10\*)
  - 8.7. Monitor developments in radar technology and their effect on racons (Task 11\*)
9. WG 3 – AIS
  - 9.1. Review and update documentation on AIS (M.1371; A-124, A-126) (Task 12\*)
  - 9.2. Co-ordinate input to IMO, ITU, and IEC on AIS (Task 13\*)
  - 9.3. Monitor and contribute to the efficient utilization of AIS, development of future VHF Data Exchange (VDE) and technical standards (with WG4). (Task 14\*)
  - 9.4. Monitor developments in the technical definition of AIS stations at IEC, satellite detection of AIS, and terrestrial long range AIS (Task 15\*)
  - 9.5. Monitor developments in the use of AIS in polar regions (e.g. AIS AtoNs) (Task 16\*)
  - 9.6. Provide guidance on the reliability of AIS data when used in court (Task 32\*)
10. WG 4 – Communications
  - 10.1. Review and update IALA Maritime Radio Communications Plan (Task 17\*)
  - 10.2. Prepare Recommendations and Guidelines on communications (Task 18\*)
  - 10.3. Co-ordinate input to ITU, IMO, and IEC on communications (Task 19\*)
  - 10.4. Prepare a Guideline on the establishment and operation of communications systems in polar regions (Task 20\*)
  - 10.5. Monitor developments in GMDSS and LRIT (Task 21\*)
11. WG 5 – Technical Architecture
  - 11.1. Develop and maintain shore-based e-Navigation architecture (Task 22\*)
  - 11.2. Prepare Recommendations and Guidelines on e-Navigation architecture (Task 23\*)

- 11.3. Co-ordinate input to IMO, IHO, ISO, IEC and CIRM on e-Navigation architecture (Task 24\*)
12. WG 6 – Data Modelling
  - 12.1. Prepare Recommendations and Guidelines on data modelling (Task ??)
  - 12.2. Support/advise the IALA Domains Manager in managing the IALA domain, according to IHO standards S-100 & S-99 (Task 32\*)
13. Monitor and report progress on related systems (Task 28\*)
14. Liaise with other IALA Committees and other bodies (Task 29\*)
  - 14.1. NAVGUIDE
  - 14.2. IALA Dictionary
15. Prepare a combined IALA e-Navigation Plan (all Committees) (Task 30\*)
16. Consider the regulatory process for e-Navigation and recommend the best approach (Task 31\*)
17. Future Work Programme (2014 – 2018)
18. Review of output and working papers
19. Any Other Business
  - 19.1. Working Group Terms of Reference (ToR)
  - 19.2. Software quality assurance
20. Date and venue of next meeting
21. Review of session report

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**ANNEX D LIST OF INPUT PAPERS**

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

Meeting	Paper Number	Title / Author (if required)	Agenda Item	Presented by / WG	Posting
		Report of e-NAV12		All	1
		e-NAV input paper template		All	1
e-NAV13/	1 rev8	Agenda	1	BC / TCM	V Late
e-NAV13/	2	Action Items from EEP19	2	BC / TCM	1
e-NAV13/	3 rev8	Papers' List ( <b>Finalised at pre-meeting</b> )	3	BC / TCM	V Late
e-NAV13/	4	Programme for the week ( <b>Finalised at pre-meeting</b> )	3	BC / TCM	1
e-NAV13/	5	e-Navigation Roadmap	16	C&VC	1
e-NAV13/	6	Draft review of the IALA NAVGUIDE	14.1	1	1
e-NAV13/	7	Development of guidelines on GNSS augmentation services for port and docking	8.2	2	1
e-NAV13/	8	Port and docking system guidelines mindmap	8.2	2	1
e-NAV13/	9	Input on Disaster Recovery	8.6	2	1
e-NAV13/	10	Draft Guideline on Polar Communications	10.4	3 & 4	1
e-NAV13/	11	Report PAP24	4.2	BC / TCM	1
e-NAV13/	12	Draft Proposal for the IMO/IHO Harmonisation Group on Data Modelling (HGDM)	11.1	6	1
e-NAV13/	13	Changes proposed for consideration by IHO	12.1	6	1
e-NAV13/	14	AtoN Metadata Product Specification - Review ( <b>replaced, see e-NAV13/29</b> )	12.1	6	1
e-NAV13/	15	IHO-IALA Meeting Report	12.1	6	1
e-NAV13/	16	The IHO S-100 Standard and e-Navigation Information	12.1	6	1
e-NAV13/	17	AtoN Information - draft ( <b>replaced, see e-NAV13/29</b> )	12.1	6	1
e-NAV13/	18	Maritime Information S-100 PS - DMA	12.1	6	1
e-NAV13/	19	Liaison note from VTS to e-NAV AtoN Information draft PS	12.1	6	1
e-NAV13/	20	Liaison statement from ITU-R WP5B - Recommendation ITU-R M.1371-4	9.2	3 & 4	1
e-NAV13/	21	Report from IALA Council – 54th Session, December 2012	4.1	BC / TCM	1
e-NAV13/	22 rev1	e-NAV Committee Work Programme	18	BC / NW	5
e-NAV13/	23	Report from MSC91, October 2012	4.3	BC / TCM	1
e-NAV13/	24	Report Architecture WG5 Intersessional Meeting 4Dec12	11	5 / All	1
e-NAV13/	25	Draft Document The Structure Of Maritime Service Portfolios( MSP)	11	5	1
e-NAV13/	26	Standalone Document Implementation of MSP	11	5	1

Meeting	Paper Number	Title / Author (if required)	Agenda Item	Presented by / WG	Posting
		strategic perspective			
e-NAV13/	27	Standalone Document ISO20000 application	11	5	1
e-NAV13/	28	Reliability of AIS data	9.6	3 & 4	2
e-NAV13/	29	AtoN Information - draft Product Specification	12.2	6	2
e-NAV13/	30	Updating IALA documentation	17	BC / NW	2
e-NAV13/	31	Master List of IALA Recommendations	17	BC / NW	2
e-NAV13/	32	Master List of Guidelines	17	BC / NW	2
e-NAV13/	33	Master List of Other publications	17	BC / NW	2
e-NAV13/	34	Master List of Model Courses	17	BC / NW	2
e-NAV13/	35	Meeting dates revised December 2012	INF	All	2
e-NAV13/	36	e-Navigation Underway 2013 - final report	INF	All	3
e-NAV13/	37	Cover note for Report of Workshop on International Standardization of Next Generation AIS	9.3	3 & 4	3
e-NAV13/	38	Report of Workshop on International Standardization of Next Generation AIS	9.3	3 & 4	3
e-NAV13/	39	Project MUNIN - Brochure	INF	All	3
e-NAV13/	40	Software Quality Assurance	7.1	1	4
e-NAV13/	41	Green routes (see agenda item 5.5)	INF	All	4
e-NAV13/	42	Mona Lisa (see agenda item 5.5)	INF	All	4
e-NAV13/	43	Draft Guideline on Producing an IALA S-100 Product Specification	12.1	6	4
e-NAV13/	44	Review of the IALA NAVGUIDE 2010 Edition - Chapter 4	14.1	2	4
e-NAV13/	45	Software Quality Assurance for onshore systems	7.1	1	4
e-NAV13/	46 rev1	Developing a Product Specification for Marine Protected Areas	INF	6/All	Late
e-NAV13/	47 rev2	Concept of Operations for e-Navigation in Canada	7.2	5/1/6	V Late
e-NAV13/	48	Proposed method for validation of service availability in IALA-DGPS	8.2	2	Late
e-NAV13/	49	Proposals for extending S-100	12.1	6	Late
e-NAV13/	50	Intersessional Report of review of R-121	INF	All	Late
e-NAV13/	51	Report of inter-sessional meeting of Working Group 6	INF	All	Late
e-NAV13/	52	Formation & ToR for Testbed WG	19.3	7/1/All	Late
e-NAV13/	53	Report of joint meeting of the AIS + Communication Working Group of the IALA e-NAV Committee	9/10	3/4	Late
e-NAV13/	54	Liaison note on reliability of AIS data	9.6	3/4	Late
e-NAV13/	55	Cover note for Liaison note to ITU-R WP5B	10.3	3/4	Late
e-NAV13/	56	Draft Liaison Note to ITU-R WP5B	10.3	3/4	Late
e-NAV13/	57	Annex 1 (to e-NAV13/57) Plans for future VHF Data Communication	10.3	3/4	Late

Meeting	Paper Number	Title / Author (if required)	Agenda Item	Presented by / WG	Posting
e-NAV13/	58	Annex 2 (to e-NAV13/57) Draft report on VDL loading	10.3	3/4	Late
e-NAV13/	59	Draft Guideline Harmonised implementation of ASM	9.1	3/4	Late
e-NAV13/	60	Best Practice - Conference 2014	INF	All	Late
e-NAV13/	61	Best Practice submission form	INF	All	Late
e-NAV13/	62	Technical parameters of radar target enhancers-ITU	8.7	2	V Late
e-NAV13/	63	e-Navigation infrastructure test-bed	-	7/3&4	V Late
e-NAV13/	64	Liaison note from VTS on Draft Guideline on Harmonised Portrayal of e-Navigation-related Information	7.6	All	V Late
e-NAV13/	65	Draft IALA Guideline on Harmonised Portrayal of e-Nav Info, with VTS comments	7.6	All	V Late
e-NAV13/	66	Applications of Message 27	9.1	3/4	V Late
e-NAV13/	67	R-REP-M.2169-2009 Improved satellite detection of AIS	9.1	3/4	V Late
e-NAV13/	68	The e-Navigation Suite' The List Of Topics	11.1	5	V Late
e-NAV13/	69	Draft 2014 - 2018 Work Programme	17	C&VC	V Late
e-NAV13/	70	Report from VTS36	INF	All	V Late

**ANNEX E 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-NAV13/output/1	Draft e-NAV12 Report	To Council to note
e-NAV13/output/2	Proposed changes to the Work Programme	To Council to approve
e-NAV13/output/3	Issues of Infrastructure and Test-beds for IMO e-Navigation CG	To IMO CG on e-Navigation
e-NAV13/output/4	Draft Guideline on Harmonised implementation of ASM	To Council to approve
e-NAV13/output/5	Liaison note to ITU on M.1371-4	To Council to approve To ITU-R WP5B by 20 May 2013
e-NAV13/output/6	Liaison note to ITU-R WP5B	To Council to approve To ITU-R WP5B by 20 May 2013
e-NAV13/output/6A	Annex 1 to e-NAV13/output/6	To Council to approve To ITU-R WP5B by 20 May 2013
e-NAV13/output/6B	Annex 2 to e-NAV13/output/6	To Council to approve To ITU-R WP5B by 20 May 2013
e-NAV13/output/7	Liaison note to LAP on Reliability of AIS data	To LAP
e-NAV13/output/8	CSSA Workshop Application	To Council to approve
e-NAV13/output/9	Shore-based e-Navigation Architecture FAQ	To Council to approve
e-NAV13/output/10	WG on testbeds ToR and WP	To Council to note To VTS37, EEP20 & ANM20, to note
e-NAV13/output/11	Discussion paper on testbed	To Council to consider To VTS37, EEP20 & ANM20 & PAP25, to consider
e-NAV13/output/12	Liaison to IMO CG interim guidance on testbed	To IMO CG on e-Navigation
e-NAV13/output/13	Liaison note to all Committees on e-Navigation Roadmap	To VTS37, EEP20 & ANM20 & PAP25 to note

Number	Title	Status
e-NAV13/output/14	Liaison note to IMO CG on MSPs	To IMO CG on e- Navigation
e-NAV13/output/15	Liaison to ITU on Target Enhancers	To Council to approve To ITU-R WP5B by 20 May 2013
e-NAV13/output/16	New unplanned output for NSCR 1	To Council to approve text and encourage National member support at IMO.
e-NAV13/output/17	Liaison note to ANM, EEP, VTS and PAP on Disaster Recovery	To VTS37, EEP20 & ANM20 & PAP25 to consider
e-NAV13/output/18	Proposal for Producing Product Specifications	To PAP25 to consider
e-NAV13/output/19	Proposal for new Document Category	To PAP25 to consider
e-NAV13/output/20	Liaison Note to ANM about NAVGUIDE	To ANM20
e-NAV13/output/21	NAVGUIDE 2014 - draft e-Navigation chapter	To ANM20
e-NAV13/output/22	Cover note for draft e-NAV 2014 – 2018 Work Plan	To PAP25 / Strategy
e-NAV13/output/23	Draft e-NAV 2014 – 2018 Work Plan	To PAP25 / Strategy

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

Number	Title	Status
e-NAV13/WG1/WP1	Proposed Software Quality Assurance for onshore systems	To e-NAV14
e-NAV13/WG2/WP1	Nil	To e-NAV14
e-NAV13/WG3&4/WP1	Nil	To e-NAV14
e-NAV13/WG5/WP1	Draft Recommendation on IALA Common Shore Based System Architecture-Layout	To e-NAV14
e-NAV13/WG5/WP2A	Note on draft Revision of Recommendation e-NAV-140	To e-NAV14
e-NAV13/WG5/WP2B	Draft Revision of Recommendation e-NAV-140	To e-NAV14
e-NAV13/WG5/WP3	Draft Recommendation on the creation of IALA Stakeholder's Harmonized User Requirements (ISHR)	To e-NAV14
e-NAV13/WG5/WP4	Requirement Engineering Process for IALA e-Navigation	To e-NAV14
e-NAV13/WG5/WP5A	Draft IALA Recommendation e-NAV-210	To e-NAV14
e-NAV13/WG5/WP5B	Draft IALA Recommendation e-NAV-210 Annex 0	To e-NAV14
e-NAV13/WG5/WP5C	Draft IALA Recommendation e-NAV-210 Annex 4	To e-NAV14
e-NAV13/WG5/WP5D	Draft IALA Recommendation e-NAV-210 Annex 5	To e-NAV14
e-NAV13/WG5/WP5E	Report of combined WG3 & WG4 meeting - Dublin	To e-NAV14
e-NAV13/WG5/WP6	Continuous improvement graphic	To e-NAV14
e-NAV13/WG6/WP1	Draft IALA S-100 Product Specification	To e-NAV14
e-NAV13/WG7/WP1	Nil	To e-NAV14
e-NAV13/C&VC/WP1	Recommendations master list	To e-NAV14
e-NAV13/C&VC/WP2	Guidelines master list	To e-NAV14
e-NAV13/C&VC/WP3	Other publications master list	To e-NAV14

**ANNEX F ACTION ITEMS***Action Items for the IALA Secretariat*

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|----|---|----|
| 1  | The Secretariat is requested to forward input document e-NAV13/68 (formerly e-NAV12/84) ‘e-Navigation Platform Suite’ or ‘7-pillars of e-Navigation @ e-navigation.net’) to e-NAV14 for further consideration.  | 7  |
| 2  | The Secretariat is requested to forward the liaison note (e-NAV13/output/3) to the IMO CG on e-Navigation prior to 29 April 2013.   | 13 |
| 3  | The Secretariat is requested to forward the road map for e-Navigation (e-NAV13/output/13) to e-NAV14.   | 13 |
| 4  | The Secretariat is requested to forward the working paper on ‘Software Quality for Onshore Systems’ (e-NAV13/WG1/WP1) to e-NAV14.   | 13 |
| 5  | The Secretariat is requested to forward paper e-NAV12/output/31 to e-NAV14.   | 14 |
| 6  | The Secretariat is requested to forward paper e-NAV13/64 & e-NAV13/65 to e-NAV14.   | 14 |
| 7  | The Secretariat is requested to forward the paper on the IALA NAVGUIDE (e-NAV13/output/14) to ANM20.  | 14 |
| 8  | The Secretariat is requested to forward the terms of reference and work program for WG 7 (e-NAV13/output/10) to the IALA Council and all other IALA committees and PAP for their information.   | 15 |
| 9  | The Secretariat is requested to forward the discussion paper on test beds (e-NAV13/output/11) to the IALA Council and all other IALA Committees and PAP for their information and comment.  | 15 |
| 10 | The IALA Secretariat is requested to forward the liaison note containing preliminary guidance on testbeds (e-NAV13/output/12) to the Co-ordinator of the IMO Correspondence Group on e-Navigation.  | 15 |
| 11 | The Secretariat is requested to forward e-NAV13/output/15 (Liaison note on the technical parameters of radar target enhancers) to Council for approval.   | 16 |
| 12 | If approved, the Secretariat is requested to send e-NAV13/output/15 (Liaison note on the technical parameters of radar target enhancers) to ITU Radiocommunication Study Group 5.   | 16 |
| 13 | The Secretariat is requested to forward the Information Paper on a proposed new unplanned output on multiple radionavigation systems for NCSR 1 (e-NAV13/output/16) to Council for approval of the content and to encourage their IMO National Members to support the proposal. | 16 |
| 14 | The Secretariat is requested to forward the liaison note on disaster recovery (e-NAV13/output/17) to ANM20, EEP20, VTS37 & PAP25.   | 16 |
| 15 | The Secretariat is requested to forward the Guideline on Harmonised Implementation of ASM (e-NAV13/output/4) to the Council for approval.   | 18 |
| 16 | The Secretariat is requested to forward the Liaison Note regarding the reliability of AIS Data when used in court cases (e-NAV13/output/7) to LAP.  | 18 |
| 17 | The Secretariat is requested to forward the liaison note to ITU on ITU-R M. 1371-4 (e-NAV13/output/5), to Council for approval by email, with a deadline of 10 May, 2013.   | 18 |

- 18 If approved, the Secretariat is requested to send the liaison note to ITU on ITU-R M. 1371-4 (e-NAV13/output/5) and the Draft Revision of ITU-R M. 1371-4 to ITU WP5 B by 20 May, 2013. 18
- 19 The Secretariat is requested to arrange appropriate IALA representation at the ITU-R WP5B meeting, as requested by ITU. 18
- 20 The Secretariat is requested to forward the liaison note to ITU-R WP5B regarding future data communications (e-NAV13/output/6, e-NAV13/output/6A, & e-NAV13/output/6B), to Council for approval by email, with a deadline of 10 May, 2013. 19
- 21 If approved, to send the liaison note to ITU-R WP5B regarding future data communications (e-NAV13/output/6, e-NAV13/output/6A, & e-NAV13/output/6B) to ITU WP5 B by 20 May, 2013. 19
- 22 The Secretariat is requested to arrange appropriate IALA representation at the ITU-R WP5B meeting, as requested by ITU. 19
- 23 The Secretariat is requested to forward output document e-NAV13/output/8 (Proposed CSSA Workshop (Hamburg, August 2014)) to Council for approval. 20
- 24 The Secretariat is requested to forward output document e-NAV13/output/9 (e-Navigation Architecture FAQ) to Council for approval. 20
- 25 If approved, the Secretariat is requested to forward e-NAV13/output/9 (e-Navigation Architecture FAQ) to the Editor of the IALA Bulletin for publication. 20
- 26 If approved, the Secretariat is requested to publish e-NAV13/output/9 (e-Navigation Architecture FAQ) on the IALA website. 21
- 27 The Secretariat is requested to forward input documents e-NAV13/24, e-NAV13/25, e-NAV13/26, and e-NAV13/47 to e-NAV14. 21
- 28 The Secretariat is requested to forward working documents e-NAV13/WG5/WP1, e-NAV13/WG5/WP2A/B, e-NAV13/WG5/WP3, e-NAV13/WG5/WP4, e-NAV13/WG5/WP5A/B/C/D/E, and e-NAV13/WG5/WP6 to e-NAV14. 21
- 29 The Secretariat is requested to forward input document e-NAV13/68 to e-NAV14. 21
- 30 The Secretariat is requested to forward the proposal for more efficient preparation of an IALA PS (e-Nav13/output/18) to PAP, with a view to making a proposal to Council. 22
- 31 The Secretariat is requested to forward the proposal for including the category Product Specification in the IALA document categories (e-Nav13/output/19) to PAP, with a view to making a proposal to Council. 22
- 32 The Secretariat is requested to forward the draft IALA S-100 PS (e-NAV13/WG6/1) to e-NAV14. 22
- 33 The Secretariat is requested to forward the liaison note containing preliminary guidance on testbeds (e-NAV13-output-12) to the Coordinator of the IMO Correspondence Group on e-Navigation. 23
- 34 The Secretariat is requested to forward the liaison note about the NAVGUIDE (e-NAV13/output/20) to ANM20. 23
- 35 The Secretariat is requested to forward the draft revised NAVGUIDE e-Navigation chapter (e-NAV13/output/21) to ANM20. 23
- 36 The Secretariat is requested to forward e-NAV13/C&VC/WP1, e-NAV13/C&VC/WP2 & e-NAV13/C&VC/WP3 to e-NAV14. 23

- 37 The Secretariat is requested to forward the draft 2014 – 2018 Work Programme was prepared (e-NAV13/output/22 and e-NAV13/output/23) to the PAP25 / Strategy meeting. 24
- 38 The Secretariat is requested to forward the draft 2014 – 2018 Work Programme (e-NAV13/output/23) to e-NAV14. 24
- 39 The Secretariat is requested to forward the requested changes to the current Work Programme (e-NAV12/output/2) to Council for approval. 24
- 40 The Secretariat is requested to post the ToR for WG7 (extracted from e-NAV13/output/10) to the FTP server and Committee website. 24
- 41 The Secretariat is requested to forward the report of e-NAV13 (e-NAV13/output/1) to the Council, to note. 24

### ***Action items for members***

- 42 The Chairs of WG5 (Jan-Hendrik Oltmann) and WG1 (David Patraiko) are requested to continue their liaison with Danish Maritime Authority (DMA) with the goal to structure the existing web-site e-navigation.net in accordance with the concept and principles laid out in e-NAV13/68 (formerly e-NAV12/84) and report to e-NAV14. 7
- 43 Members are requested to provide draft input to the web-site e-navigation.net in accordance with the concept and principles laid out in e-NAV13/68 (formerly e-NAV12/84) to e-NAV14. 7
- 44 The Canadian Coast Guard representative to the e-NAV Committee is invited to present relevant findings and results in regard to their on going MSPs planning to one of the next e-NAV Committee meetings. 8
- 45 The Canadian Coast Guard representative to the e-NAV Committee is invited to consider closer interaction with the ACCSEAS project in regard to the Maritime Service Portfolios (MSPs) concept, structure and MSPs regional planning. 8
- 46 Committee members are requested to contact Natacha Riendeau with any comment about input paper e-NAV13/47 via Natacha.Riendeau@dfo-mpo.gc.ca. 8
- 47 Committee members are requested to consider attending the VTS Portrayal workshop in Bremen from 6 to 9 May, 2013 10
- 48 The Vice Chairman is requested to invite the ACCSEAS project to present relevant findings and results to future e-NAV Committee meetings. 11
- 49 The Chairman of WG2 is requested to provide a final draft Guideline on establishment and operation of navigation systems in polar regions to the Secretariat as an input to e-NAV14. 16
- 50 Committee members are requested to seek the support of their national members at ITU-R WP5B regarding future data communications. 19
- 51 Hideki Noguchi is requested to develop an information paper on VDES and provide it as an input to e-NAV14. 19
- 52 If the CSSA Workshop is approved, the Chair of the WG5 is requested to set up the Workshop Steering Group and initiate the preparations for workshop. 20
- 53 Committee members are requested to prepare input regarding the Common Shore-based System Architecture (CSSA) and regarding the generic service model for e-NAV14 (working papers e-NAV13/WG5/WP1, e-NAV13/WG5/WP2A/B, e-NAV13/WG5/WP3, e-NAV13/WG5/WP4, e-NAV13/WG5/WP5A/B/C/D/E, and e-NAV13/WG5/WP6 refer). 21

- 54 Members are requested to prepare input regarding the structure of the Maritime Service Portfolios (MSPs) for e-NAV14 (input documents e-NAV13/24, e-NAV13/25, e-NAV13/26, and e-NAV13/47 refer). 21
- 55 Members are requested to consider the proposal to set up an international project regarding the creation of internationally generic MSPs and provide input to e-NAV14 accordingly. 21
- 56 Members are requested to prepare input regarding the 'e-Navigation Platform Suite / Seven Pillars of e-Navigation' and its representation in the IALA/DMA domain 'e-navigation.net' for e-NAV14 using the guidance in document e-NAV13/68. 21
- 57 The IALA Secretariat is requested to forward the terms of reference and work program for WG 7 (e-NAV13-output-10) to the IALA Council and all other IALA committees for their information. 22
- 58 IALA members are requested to forward any information on current and completed testbeds and any R&D projects to Thomas Porathe (Danish Maritime Authority) via the IALA Secretariat by 30<sup>th</sup> June 2013. 22