

Please comment by 12 October

**Report of the 12th Meeting of the e-Navigation Committee**

**24 – 28 September, 2012**

**Executive Summary**

* 99 members, from 24 countries and 4 sister organisations, attended this meeting of the e-NAV Committee, of which 22 members were new and 2 were observers;
* The Committee considered 94 input papers;
* 36 Output papers included:
  + 2 draft revised Recommendations, one with 3 Annexes;
  + 2 draft Guidelines;
  + draft revised MRCP and WWRNP;
  + updated e-Navigation FAQ;
  + 1 draft model course;
  + 2 Council Information Papers;
  + 1 workshop proposal;
  + 12 Liaison notes.
* The previous Working Group on Portrayal has been merged with Working Group 1 (Operations). Working Groups 3 (AIS) and 4 (Communications) are now merged and a new Data Modelling and Interfacing Working Group (Working Group 6) established;
* Two statements were made by IMO (e-Navigation Platform Suite – section 5.1.4 and SMCP – section 5.10);
* A statement was made by IMPA (Portable Pilot Units - e-NAV12/output/4);
* Repeated call for IALA representation at ITU relevant meetings (paragraph 10.3);
* Four inter-sessional meetings are being requested:
  + WG2 (PNT) to review and update IALA recommendation R-121 (paragraph 8.2);
  + WG3/4 (AIS & Communications) to progress the discussion paper on AIS and VDE and further develop the inputs to ITU WP5B (paragraph 9);
  + WG5 (Technical Architecture) on developing the structure of the Maritime System Portfolios and the e-Navigation Suite (paragraph 11.1).
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* Changes were proposed to the Work Programme (e-NAV12/output/2).

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| e-NAV Committee  12th Session | 28 September, 2012 |

Report of the 12th Session of the IALA e-NAV Committee

# General

The 12th meeting of the **e-Navigation Committee** was held from 24 – 28 September, 2012 at IALA, with Bill Cairns as Chairman and Nick Ward as Vice-Chairman. The Secretary for the meeting was Mike Hadley.

Apologies were received from:

|  |  |  |
| --- | --- | --- |
| **Name** | **Organisation** | **Country** |
| Jorge Arroyo | USCG | USA |
| Peter Blackhurst | INMARSAT |  |
| David Blevins | Sperry-Marine | USA |
| Michael Bergman | Jeppesen | Norway |
| Steve Guest | Kongsberg Norcontrol IT | Norway |
| Jarle Hauge | NCA | Norway |
| Bill Kautz | USCG | USA |
| Paul Kirchner | IMPA |  |
| Albrecht Kramer | IMPA |  |
| James Langley | ICS |  |
| Pierre-Yves Martin | CETMEF | France |
| Andy Norris | NI |  |
| Christian Rissone | ITU |  |
| Brian Tretrault | US Army Corps of Engineers | USA |
| Robert Ward | IHO |  |

**Opening**

Bill Cairns welcomed both newcomers and those returning to IALA. He then remarked that the Secretary-General was absent on duty but expected to be able to join the Committee by 28 September. Noting the extensive list of apologies, he noted that several other international meetings were also happening during the week.

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.

# Agenda

The draft agenda (e-NAV12/1 rev8) was adopted.

# Review of Action Items from e-NAV11

Paper e-NAV12/2 refers. It was noted that the action items from e-NAV11, for the IALA Secretariat, were complete, although output papers 5, 6 and 12 had been returned by the Council, due to an overall need for more information about the resource implications of participating in and implementing S-100.

For members’ actions, the following comments were made:

**Action 39** – Complete. A paper has been provided (e-NAV12/65).

**Action 40** – Complete. A workshop on data exchange is being planned to be held in Norway and there were presentations made at VTS2012.

**Action 41** – Complete. See INF paper e-NAV12/58.

**Action 42** – On-going.

**Action 43** – On-going

**Action 44** – Complete. The Harmonisation Group on Data Modelling was established at MSC90.

**Action 46** – Complete. A website is being set up to host examples, of which there are already 18.

**Action 47** – Complete. See paper e-NAV12/68.

# Review of input papers & inter-sessional Working Group reports

Papers e-NAV12/3 rev10 and e-NAV12/4 refer.

The Chairman asked the Chairs of Working Groups (WG) to report the activities of their groups, including inter-sessional meetings during the proceedings of their working groups. Agreement was reached on which WGs papers would be sent to and which WG would take the lead, where a response was required. WG Chairmen also outlined their expectations for the meeting.

# Reports from other bodies

## IALA Council 53rd session

The report (e-NAV12/49) was noted, in particular, the:

* statements that e-Navigation and VTS are key elements for the IALA work and that participation in IHO S-100 Registry is a key link to e-Navigation but that the type and amount of work is still unclear, as well as the resources needed;
* Committees should prepare separate input papers to Council when changes are requested in a Committee’s Work Programme;
* comments in section 9.2 (e-Navigation);
* approval to revise the Annual Questionnaire;
* approval of the draft Guideline on the sharing of maritime data (IALA Guideline No. 1086);
* approval of the draft Guideline on standard format for electronic exchange of AtoN information (IALA Guideline No. 1085);
* comment that the ANM Committee may take over operational aspects of e-Navigation.

## Report of PAP23

The Committee noted the report (e-NAV11/4/2). Specifically:

* the potential changes to the structure of the e-NAV Committee;
* the increasing evidence of cross-Committee collaboration / co-operation;
* preparing for the 2014 – 2018 Work Programme;
* concerns about technical competence within Committees with regard to the IHO registry;
* the wish, on the part of ANM, for close co-operation with the e-NAV Committee.

## Report of MSC90

Paper e-NAV12/94 refers. The Committee noted:

* the remarks about LRIT;
* the new agenda item for NAV regarding the performance standards for multi-system shipborne navigation receivers;
* the approval for:
  + the formation of the Harmonisation Group on Data Modelling;
  + current overarching e-navigation architecture;
  + proposed way forward for developing a Common Maritime Data Structure (CMDS);
  + use of the IHO's S-100 standard as the baseline for creating a framework for data access and services under the scope of SOLAS; and
  + proposed joint plan of work on e-navigation for the COMSAR, NAV and STW Sub-Committees for the period 2012-2014.
* the comments concerning the Marine Electronic Highway (MEH), leading to comments that:
  + the S-100 standard could be extended and further developed to meet the emerging requirements of e-navigation;
  + the MEH project was an excellent example of close regional cooperation to improve maritime safety and environmental protection; and
  + the development of MEH should draw from aspects of e-navigation and vice versa, e.g. systems, architecture and the S-100 standard, to generate maximum synergies.
* The Norwegian plan to hold a test in Polar regions;
* The recommendations for the e-NAV Committee.

## Report of NAV58

Paper e-NAV12/61 refers. The Committee noted:

* the comments concerning the development of e-Navigation and the report of the IMO Correspondence group on e-Navigation;
* the agreement that the e-Navigation solutions should be goal based and their descriptions should be kept generic;
* the agreement with the further developments of Maritime Service Portfolios, of guidelines for usability evaluation of navigational equipment, and of guidelines for the harmonization of test beds;
* the comments concerning the development of policy and new symbols for AIS AtoN
* the comments regarding ITU and AIS matters.

The Chairman concluded discussion on the IMO reports by thanking Jean-Charles Leclair for producing such comprehensive reports.

## Report from VTS35

The 35th session of the Committee was held from 3-7 September 2012 in Istanbul/Turkey. The meeting was preceding IALAs 12th International VTS Symposium 2012, one week later also held in Istanbul. This report was prepared by Pieter Paap.

* 70 members from 22 countries participated, 48 input papers were considered, 11 output papers produced;
* It was the last meeting for the Chairman of WG1 Barry Goldman participated - Bill Burns (USA) takes over as chair of WG1.

### Operational

* There was an assessment of two tasks
  + Review of IMO Resolution A.857(20) *Guidelines on VTS*
  + Review of IMO Resolution A.918(22) on *SMCP (Standard Marine Communication Phrases)*leading to the work on these issues being suspended due to 1) related developments in time -A.857(20)- and 2) rejection by IMO of an input document on A.918(22); guidance was sought from the Council about the further process for reviewing IMO documents.
* A new World VTS Guide website was planned to be launched during the 12th VTS Symposium 2012.
* IALA Council approved to organize the workshop on VTS Portrayal; the workshop will be held, after final considerations, from 6-10 May 2013 at the Jacobs University in Bremen/Germany;
* As requested by Council53 a special drafting group (Chair/Vice Chair and Secretary of the Committee and two members) drafted an outline for a *Strategy Paper on the future delivery of VTS in a rapidly changing maritime world*; this outline was sent as an output paper to Council and its Strategy Group in order to support structuring the future work on this item (the development of a vision and Strategy on VTS beyond 2020); it may be expected that the VTS Committee will be further involved in developing IALAs vision and Strategy;
* The following tasks of the VTS Committee were already completed and approved by Council at its 53rd or earlier sessions:
  + Review Recommendation V-125 Use and presentation of symbology;
  + Recommendation V-127 VTS Operating Procedures;
  + Recommendation on Standard nomenclature (i.e. identifications) for use when referring to a VTS Centre.
* The Committee completed
  + the work on the Guideline *provision of VTS Types of Services* and the results were sent to Council for approval;
  + a review of IALA Guideline 1018 *Risk Management* (the review was requested by the ANM Committee) and the result were sent by Liaison Note to the ANM Committee;
  + a review of the VTS part in the IALAs Annual Questionnaire; results will be sent to the ANM Committee.
* The Committee started
  + the review on VTS Recommendation V-120 *VTS on Inland Waters*; it can be expected that this task will be completed during VTS36 (March 2013);
  + the development of a new Guideline VTS support and interaction with allied services in emergency situations, SAR, disaster management, law enforcement and regulatory compliance; a complete restructure of the document has been made; the work will continue at VTS36;
  + the development of a new Guideline on The use of decision support tools in VTS; this work will continue in the next sessions.
* Good progress was made on the development of a Guideline on Assessing and Auditing the overall performance of VTS Centres with respect to their effectiveness in mitigating risk and as described in Chapter 18 in the VTS Manual concerning Quality Management.

### Technical

* Significant progress was made in revising the IALA Recommendation V-128 Operational and Technical Performance Requirements for VTS equipment; an extra inter-sessional meeting will be organized for the final editorial work on the General Chapters; at VTS 36 this task is scheduled to be finalized; on the Annexes 1, 2, 6 11 and 13 still some issues have to be addressed; the Annexes 5, 8, 9, 10, and 11 are nearly completed (some minor aspects to be incorporated or checked); the Annexes 3, 4, 7 and 12 are completed;
* Recommendation on *Harmonized VTS and vessel traffic management requirements for networking and information exchange* was already completed. Within the scope of this task the Recommendation V-145 on *the Inter VTS Exchange Format Service (IVEF)* was approved by Council; it was decided that the revised Recommendation V-128 will contain an Annex, specially addressing data exchange, since this annex addresses precisely the harmonized functional requirements. Furthermore it was decided that Recommendation V-145 needs an update on the definition of polygons and its clarification, the identification of meta data and object data definitions, as well as to correct multiplicity.
* A liaison note to the e-NAV Committee was prepared concerning *AtoN Information - draft Product Specification.* It was considered that the draft Product Specification served its intended purpose;
* A response with a small number of comments was prepared to the *Liaison Note to PAP & Committees Plan for AIS and VHF Data Exchange 2.*

### Personnel and Training

* The Committee started with the development of a Guideline *on Refresher Training and Revalidation*; during the discussion it was proposed that a Model Course could be instead;
* A proposal was endorsed for a VTS Simulation Training Seminar submitted from MARIN (Wageningen / the Netherlands) to host the Seminar (from 9-13 September 2013) in conjunction with the Port of Rotterdam Authority; this proposal is forwarded to Council for approval.

### Rapporteur between VTS and e-NAV Committees

In view of the speed with which VTS and e-Navigation are proceeding it was felt essential that the reporting between the two Committees was resumed. Pieter Paap (Netherlands) was prepared to assume the role of rapporteur for the remainder of the current Working Programme.

The Chairman thanked Pieter Paap for his comprehensive report.

# Presentations

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

## ACCSEAS

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

The presentation began with an indication of the challenges facing shipping in the North Sea, which led to the establishing of the ACCSEAS project, which builds on work undertaken in the EFFICIENSEA project. The project’s aims and objectives were reviewed, before an overview of the project and its structure were shown. It was stated the project will be taking a systems engineering approach and will provide a testbed for resilient PNT (Position Navigation & Timing) and e-Navigation Services. The expected project outcomes were indicated as:

* Geographic Information System (GIS):
  + traffic patterns, priority locations, restricted areas, route topology models, route optimisation in open seas, infrastructure, resilient PNT coverage, service coverage areas.
* Ship equipment and shore infrastructure prototypes;
* Evaluation of the technology and training on the human factor;
* Training Needs Analysis and training packages;
* Annual ACCSEAS conference:
  + the 2013 conference will be at Flensburg, Germany, 5-7 March.
* Legacy for future coordination of North Sea e-Navigation services;
* Develops e-Navigation sustainability plan (2015 to 2020).

The need for ‘outreach’ to the North Sea Region stakeholder was stressed. The presentation ended with the following conclusions:

* Potential for making a real positive impact on maritime accessibility and safety in the North Sea Region and potentially, worldwide
* Many questions remain to be answered
* Need for buy-in from ports, service providers, ship-owners and international e-Navigation community
* Good progress so far, with a lot more to come!

In response to questions, Nick Ward said that he is involved in the PNT work package of the project, that users and service providers are being consulted and their feedback used and that there may be an input to review current IALA guidance, particularly on position accuracy. With regard to the use of inertial technologies, Nick Ward said that they have proved too expensive in the past but consideration is being given to their being included in the mix of technologies for resilient PNT.

## Portrayal of AtoN information on ENCs

The presentation was made by David Lewald, USCG

Dave Lewald posed the question “As e-NAV continues to develop, what should be the appropriate amount of control that an e-NAV contributor such as a Lighthouse Authority has regarding the display of their data on an ENC?"

In late 2010, the USCG discovered that there were database errors regarding the positions of many of the nearly 1500 range structures nationwide. This discovery was made through observations of ENCs aboard ship where-in errant range lines were displayed.  Curiously not all ranges displayed wayward range lines and the USCG was surprised to learn that the hydrographic office often applied ‘cartographers license’ to show the range line as they thought the USCG had intended the line to be displayed. Subsequently, the USCG embarked on a nationwide survey project to regain the precise position of the range structures and has been providing hydrographic office with corrected data.

As the range survey project progresses a new dilemma has arisen.  Most of the affected 1500 AtoN are of an age that they predate the original digitization of the paper chart (mid 1990s) and as such their encoding was simplistic. Moving forward to 2012, the modern ENC cartographer armed with an abundant portrayal catalogue is now capable of encoding these ranges in greater detail, which may produce a complex or cluttered portrayal. Dave Lewald included several slides exampling this dilemma and concluded with the comment “more is not always better and the e-Navigation contributor such as a Lighthouse Authority needs to be conscious regarding the display of e-Navigation information and data.”

## Canadian implementation of e-Navigation

The presentation was made by Natacha Riendeau, CCG, drawing on information previously provided to the IALA Council.

Having introduced herself, Natacha Riendeau, indicated that her presentation would cover:

* Overall principles for the definition and implementation of e-Navigation in Canada;
* Key accomplishments;
* Concept of Operations;
* Proposed roles for IALA.

The Canadian approach is for e-Navigation to take into account safety of life, property, and the protection of the marine environment, be applicable to all categories of mariners, co-operate with the international community, contribute to marine transportation efficiency. Considerable emphasis is placed on regular user consultation and ensuring inter-departmental co-operation.

With regard to potential roles for IALA within e-Navigation, it was suggested that process and involvement could be simplified, that IALA should concentrate its efforts on the shore side aspects of e-Navigation and that guidance on standardization of data sources and services and a Recommendation on data and services to be made available for e-Navigation would be helpful. It was also stated that the Canadian Coast Guard needs IALA to accelerate the work of IMO/IHO Harmonization Group on Data Modelling (HGDM)

This latter point was a source of some discussion as there were Committee members that were in total agreement and others that wanted to let current work mature before formally approaching the HGDM.

In response to a question about funding, it was said that no additional charges are currently being considered. Full use of the present infrastructure, including the use of AIS, will be made, coupled with working ‘smarter’.

It was commented that Norway is proceeding in the same direction as Canada.

## The e-Navigation Suite

The presentation was preceded by a video on Maritime Service Portfolios in conjunction with the Single Window concept, provided by the Norwegian Coastal Administration, which can be accessed via [www.kystverket.no](http://www.kystverket.no), YouTube, Single Window Ship Reporting.

After that David Patraiko, Nautical Institute, and Jan-Hendrik Oltmann, German Federal Waterways & Shipping Administration, introduced the paper e-NAV12/84, which had been produced jointly by them.

The paper was then discussed and taking note of the comments, it was agreed that the matter would be reviewed further by both the Working Groups 1 (OPS/Strategy) and Working Group 5 (Architecture) in a joint breakout session (refer to Section 11 for results of this discussion).

At this point the IMO representative, Captain Gurpeet Singhota, asked that the following statement be ‘read into’ the minutes of the meeting.

*With respect to document e-NAV12/84, proposing the development of an ‘e-Navigation Platform Suite’ to more clearly define the scope of e-Navigation and allow practical solutions to be investigated, the IMO representative once again underlined the pressing need to focus on the main tasks, as outlined in the co-ordinated approach to the implementation of IMO’s e-Navigation strategy overall planning (2012 – 2014), to avoid undue delays. There is a clear need for the IMO Correspondence Group on e-Navigation to strictly adhere to its approved terms of reference and not undertake any additional tasks without the express approval of the IMO Maritime Safety Committee.*

## The Structure of Maritime Service Portfolios (MSPs).

The presentation was made by Jan-Hendrik Oltmann, German Federal Waterways & Shipping Administration and drew on a presentation made at VTS2012.

The purpose of the presentation was to introduce the input document e-NAV12/90. Jan-Hendrik Oltmann first referred to the presentation given by him and Mr. Jarle Hauge at the IALA VTS Symposium (in particular to the slides #1 (Title), #2 (“MSP and the overarching architecture”), and #15 (“MSPs and the Common Maritime Data Structure”)). He re-iterated the point that the concept of the MSPs should be considered as “a strategic key for international/global harmonization of shore-based services offered to shipping”, as the consciously chosen title of the VTS Symposium presentation implies. He also stated that the concept of the MSPs transcends the scope of e-Navigation, as e-Navigation is by definition limited to services provided “by electronic means”; MSPs on the other hand comprise also all those services provided by human-human-interaction and/or by machines other than electronic devices (e.g. traditional Aids-to-Navigation). Jan-Hendrik Oltmann illustrated this point by a graphical, architectural representation of that concept (refer to part 2 of the presentation). He went on to report the recognition that there is a structure inherent to the MSPs that would provide a means to arrive at a seamlessly integrated view of all services provided to shipping, and that this structure needs to be further investigated and developed in general or architectural terms. Jan-Hendrik Oltmann concluded his presentation by a walk through the topics relevant for the structure of MSPs, as addressed in the strawman draft on a future document tentatively entitled “The Structure of Maritime Service Portfolios” (e-NAV12/90).

In subsequent discussion it was remarked that IMO, Canada and Norway are already developing MSPs and that IALA would need to take account of what is going on in the ‘real world’. To which the response was that e-Navigation would have failed if it does not harmonise existing initiatives.

It was then noted that the deadline for input to the IMO Correspondence group, concerning MSP, is 4 October 2012.

There was also some concern that paper e-NAV12/90 had been presented as a Late Paper and, as such, there had been insufficient time for it to be studied and then adequately commented on. It was proposed (and accepted) that the paper be resubmitted to e-NAV13.

Note: The Architecture Working Group (WG5) has reviewed the input document during a break-out session (see section 11 below) and amended it to be brought forward to the forthcoming e-NAV13 Committee meeting.

## ISIS – A system for Standardised Data Exchange.

The presentation was made by René Hogendoorn, HITT Traffic and drew on the presentation made to VTS2012.

It was stated that the VTS centre is a focal point for the flow of information related to vessel traffic – information collected to execute the primary task of a VTS. The amount of data is growing to a point when the VTS Operator could ‘drown’ under the weight of all the information. With this in mind the speaker highlighted the need to ensure standardised data exchange and the development of a response to this through the system termed ISIS

The need for data sharing has been highlighted by previous speakers and is related to ensuring information is available when needed, where needed and without ambiguity.

It was highlighted that there are many stakeholders that can also benefit from timely vessel traffic information. In some cases, stakeholders have been granted direct access to the VTS system (for instance pilots and port authorities); in other cases, these stakeholders have to collect their own information.

The presentation referenced the work that was initiated by some industrial members of IALA to develop a common framework - Inter VTS Exchange Format (IVEF) for the exchange of VTS information. This is now available as IALA Recommendation V-145

ISIS builds a traffic surveillance image in real-time, with data from various data sources. The access process enables full control over which data is delivered to what user. The system runs on standard hardware, using a web based interface and is currently in operation at the Dutch Coastguard Centre in Den Helder, The Netherlands.

## How can IALA adopt S-100 for Product Specification

The presentation was made by Jae Yang Park, Korean Institute of Ocean Science.

The presentation began with a brief introduction to S-100 and then looked at the presenter’s view of IALA’s role as a domain holder. This included IALA’s needs for developing product specifications for its domain. It was said that S-100 provides a framework for the development of the product specification, which was followed by a slide indicating a product specification’s typical components. Jae Yang Park then described a product specification’s development process. The presentation concluded with a case study of work in Korea to develop an AtoN product specification, during which it was suggested that S-100 may contain some ambiguous statements, leading to a call for IALA’s product specifications to be consistent.

Further information on IHO S-100 is available on its website (<http://www.iho.int/>).

1. General overview: <http://www.iho.int/iho_pubs/standard/S-100/S-100_Info.htm>.
2. Information Paper: <http://www.iho.int/mtg_docs/com_wg/TSMAD/TSMAD_Misc/S-100InfoPaper_FinalJan2011.pdf>.
3. PowerPoint Presentation [download]: <http://www.iho.int/> under Standards, Download, S-100 Further Information. A copy is included in with the presentations made during the meeting.
4. S-99 Operational Procedures for Organization and Management of the S-100 Geospatial Information Registry : <http://www.iho.int/iho_pubs/standard/S-99-Operational%20Procedures_E1_0_0.pdf>

## IALA World-Wide Academy (WWA) update

The presentation was made by Stephen Bennett, WWA programme manager.

Stephen Bennett updated the Committee about the activities of the WWA, including the development of a close relationship with IMO through activities involving capacity building, and the imminent placing of a website contract for the WWA, which will be the pilot for a revised IALA website. The WWA website is expected to be operational during December 2012 and the revised IALA website during January 2013. The accreditation process was then outlined, together with the provision of information about a register of experts. The presentation concluded with a look to the future, including the intention to hold a one-month AtoN management level 1 training course, at IALA, in January 2014.

## Testbed Portal

The short presentation was made by Thomas Porathe, Chalmers University, who showed how the growing testbed portal can be accessed via [www.e-navigation.net](http://www.e-navigation.net). He indicated that there are already 18 examples posted and requested that he be advised of any further testbeds. Information is shown at three levels, with the two highest levels being edited by the Danish Maritime Authority / Chalmers University and the most detailed level being produced by the provider of the information, after being given the appropriate access.

## Statement by IMO

During the presentations the representative of the IMO, Captain Gurpreet Singhota, asked that the following text be ‘read in to’ the minutes of the meeting.

*With respect to the need for amending the IMO Standard Marine Communication Phrases (SMCP), the Committee’s attention is drawn to Annex 2 of IMO Resolution A.918(20), concerning Procedure for amending IMO SMCP. It was stressed that due care and diligence is needed as amendment proposals would be examined collectively, rather than individually, when, in the IMO’s Maritime Safety Committee’s judgement they are of sufficient or of such importance as to warrant examination. Another important fact to keep in mind is that amendments to the IMO SMCP should normally come into force at intervals of approximately five years; however, when amendments are of a very important nature and for required urgent actions, the period might be shortened to three years.*

It was noted that these remarks applied to the VTS Committee and the Secretary was asked to forward the remarks accordingly.

Action item

The Secretariat is requested to forward the IMO comments on the amendment of SMCP to the VTS Committee.

### Workshop notification

At the end of the presentations Mahesh Alimchandani announced that at IMO NAV 58 (2-6 July 2012, London), it had been decided that Australia would host a workshop on 5-6 March 2013, on usability, software quality assurance and human factors associated with usability of navigational equipment.

The associated brochure has been included in the presentations output from the meeting.

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

# Establish Working Groups

Six working groups and one drafting group were established, as outlined below:

|  |  |  |
| --- | --- | --- |
| Working Group | Working Group Chair | Working Group Vice Chair |
| WG 1 Operations and Strategy | David Patraiko | Mahesh Alimchandani |
| Portrayal Drafting group | Lee Alexander | Seo Jeong Lee |
| WG 2 PNT / Sensors | Alan Grant | Colin Day |
| 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) |

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.

# Working Group 1 – Operations

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

### Report of the IMO Correspondence Group on e-Navigation

The Committee reviewed the recent report of the IMO Correspondence Group (CG) on e-Navigation (e-NAV12/81 refers). It contained the “post IMO NAV 58” updated tables on Risk Control Options, potential solutions, and examples of Maritime Service Portfolios.

The Committee made a number of editorial changes and comments; these are contained (in track changes) in document e-NAV12/output/5. The majority of editorial changes and comments suggested are in Annex 2 ‘Preliminary List of Potential e-Navigation Solutions’, as it is recognised that these proposed solutions are soon to be the subject of risk and cost benefit analyses.

The Committee also provided information on the resilience of PNT to aid the identification of risks and cost-benefits of proposed solutions (as required by the IMO strategy development plan). This is contained in Annex A to e-NAV12/output/4.

Action Item

The IALA Secretariat is requested to forward the liaison note (e-NAV12/output/4) to the IMO CG on e-Navigation to the Co-ordinator of the IMO CG on e-Navigation by Monday, 1 October 2012.

The IALA Secretariat is requested to forward the comments on the draft report of the IMO CG on e-navigation (e-NAV12/output/5) to the Co-ordinator of the IMO CG on e-Navigation by Monday, 1 October 2012.

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

Working Groups 1 and 5 met to discuss the proposed e-Navigation Platform Suite (e-NAV12/84 refers). A report on the outcome of the discussion is provided in section 11.3. It was agreed that further development will be carried out by inter-sessional correspondence.

The ‘road map’ for e-Navigation developed at e-NAV10 was reviewed. It was noted that the road map will remain within IALA and be further developed by the Committee.

Action Item

The IALA Secretariat is requested to forward the road map for e-Navigation (e-NAV12/C&VC/WP1) to e-NAV13.

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

This task was not addressed at e-NAV12.

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

This task was not addressed at e-NAV12.

## Update Frequently Asked Questions (FAQs)

The FAQs (version 1.6 of September 2011) were reviewed. The committee made minor changes, updates and additions to the FAQs. Output document e-NAV12/output/27 refers.

Action Item

The IALA Secretariat is requested to forward the revised FAQs on e-Navigation (e-NAV12/output/27) to the IALA Council for approval.

If approved, the IALA Secretariat is requested to post the e-Navigation FAQs (e-NAV12/output/27) on the IALA website.

## 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:

* Most of the content was of an introductory nature;
* The work of the IMO Correspondence Group on e-navigation was in progress; and
* The deadline for completing this task is March 2013 (i.e. e-NAV 13).

Therefore, the Committee agreed to progress this task at its next session (e-NAV13).

Action Item

The IALA Secretariat is requested to forward the working paper on the IALA NAVGUIDE (e-NAV12/WG1/WP1) to the next session to e-NAV13.

## Liaison note to the EEP Committee

The e-NAV Committee had been requested to respond to a liaison note from the EEP Committee (EEP18/output/2 refers).

By way of background, EEP’s liaison note was, in turn, a reply to a request from the e-NAV Committee (e-NAV9/output/20), seeking possible contribution to the development of e-Navigation.

The Committee drafted a reply to the EEP Committee (e-NAV12/output/7 refers).

Action Item

The IALA Secretariat is requested to forward the liaison note on e-Navigation (e-NAV12/output/7) to EEP19.

## Liaison note to the ANM Committee

The IALA Aids to Navigation Management (ANM) Committee had requested the e-Navigation Committee to review IALA Guideline No. 1018 (on risk management).

In conducting the review, the ANM Committee aims to include editorial changes and the impact of advances of e-Navigation on risk control measures. It is to be noted that the guideline is focused on risk management from a waterways management perspective.

The committee made editorial changes and provided comment in track changes. The liaison note e-NAV12/output/8 and output document e-NAV12/output/9 refer.

Action Item

The IALA Secretariat is requested to forward the liaison note on IALA Guideline 1018 (e-NAV12/output/8) to ANM19.

The IALA Secretariat is requested to forward the marked up version of IALA Guideline No.1018 (e-NAV12/output/9) to ANM19.

## Discussion on the use of AIS as an aid to navigation

The committee reviewed:

* e-NAV12/69 (e-Navigation portrayal, user needs and AIS aids to navigation)
* e-NAV12/75 (Report of NAV 58 on AIS AtoN) and
* e-NAV12/76 (NAV 58 WP.7 – Development of policy and symbology on AIS AtoN)

It was noted that the IMO policy on AIS AtoN is expected to be finalised in 2014. It was further noted that there were benefits and risks from this emerging technology and that IALA will need to keep appraised of the IMO work and experience from its membership, to maintain its guidance on the issue.

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

This task was completed at e-NAV9.

Given the additional work that is now envisaged and the proposed change to the Task’s title (Prepare recommendations and guidelines on Maritime Information Systems in the context of MSPs (in co-ordination with the VTS Committee)) it was noted that any further work would need to be covered by an application for a further work item.

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

The Committee completed the draft Guideline on Harmonized Portrayal of e-Navigation-related Information. The guidance addresses the presentation and display of e-Navigation related information and provides advice on the harmonization of both ship-borne and shore-based systems / services. Since e-Navigation is an evolutionary process, this Guideline is intended to be descriptive – not prescriptive. Until more practical experience is gained, it is premature to prescribe specific means to present / display e-Navigation related information.

The draft Guideline includes an Annex that provides examples of new applications or systems that may be e-Navigation-related. The compilation is a collection of single-page summaries that include extracts and a small thumbnail picture. More detail on each summary as well as a higher resolution image (i.e. portrayal example) can be found on the companion web site at: http://www.e-navigation.net.

The collection of e-Navigation related portrayal examples will continue on the companion web site, thus making the Annex and web site a living document. In the near term, the web site will be maintained by the Danish Maritime Authority (DMA). Interested parties are encouraged to submit portrayal examples though an interface on the web site.

Following review, it was agreed that the document should be sent to PAP and the other Committees for their comment (e-NAV12/output/31). A liaison note (e-NAV12/output/32) was also drafted.

Action items

The Secretariat is requested to forward the liaison note on the draft Guideline on Harmonised Portrayal of e-Navigation Information (e-NAV12/output/32) to PAP24, VTS36, EEP19 & ANM19.

The Secretariat is requested to forward the draft Guideline on Harmonised Portrayal of e-Navigation Information (e-NAV12/output/31) to PAP24, VTS36, EEP19 & ANM19.

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

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

# Working Group 2 – PNT (WG2)

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

The World Wide Radio Navigation Plan has been revised. (e-NAV12/output/30).

Action Item

The Secretariat is requested to forward the revised WWRNP (e-NAV12/output/30) to the Council for approval.

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

A revision of Recommendation R-129 GNSS Vulnerability and Mitigation Measures has been prepared (e-NAV12/output/25).

Action Item

The Secretariat is requested to forward the revised Recommendation R-129 (e-NAV12/output/25) to the Council for approval.

A revision of the World Wide Academy level 2 course on Radionavigation has been reviewed, resulting in a liaison note to the world wide academy and the EEP committee (e-NAV12/output/29 & 29a).

Action Item

The Secretariat is requested to forward the liaison note regarding the revised level 2 course structure (e-NAV12/output/29) to EEP19.

The Secretariat is requested to forward the revised level 2 course structure (e-NAV12/output/29a) to EEP19.

A plan to review and update IALA Recommendation R-121 “Performance and Monitoring of DGNSS Services in the Frequency Band 283.5 – 325 kHz” was developed, resulting in a request for an inter-sessional meeting.

The development of guidelines for GNSS augmentation systems to support port approach, port manoeuvres and automatic docking has been started. This has resulted in two working papers to be considered at the next meeting.

Action Item

The Secretariat is requested to forward e-NAV12/WG2/WP1 (Development of guidelines on GNSS augmentation services for port and docking) to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG2/WP2 (Port and docking system guidelines mindmap) to e-NAV13.

A briefing on the further development of the modular PNT system was noted.

A briefing on the potential use of EGNOS in the maritime sector was noted.

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

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

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

No work was carried out on this agenda item*.*

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

No work was carried out on this agenda item*.*

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

A working paper on disaster recovery was reviewed and amended. It has also been provided as an input to the ANM Committee, and the input for that meeting will be updated to reflect the amendments. WG2 will await feedback from the ANM Committee before considering this further.

Action Item

The Secretariat is requested to forward e-NAV12/WG2/WP3 (Input to disaster recovery) to e-NAV13.

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

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

A briefing on the proposed changes to the operating frequencies for X band radar was noted.

## Additional Items

* The Working Group considered one of the proposed solutions to a gap identified during the IMO GAP analyses and provided a paper to WG1 to include in its liaison note;
* The Working Group considered their Terms of Reference and provided feedback to the Vice Chairman;
* The Working Group has developed a plan for a review and update to the NAVGUIDE and has provided feedback to the Vice Chairman;
* The Working Group reviewed the PNT relevant dates within the e-Navigation road map and provided feedback to the Vice Chairman.

# Working GroupS 3/4 – AIS & COMMUNICATIONS

As decided by the Committee Chair, the working groups on AIS (WG3) and the working group on Communications (WG4) were merged to one working group, called ‘AIS and Communications WG’, effective from this meeting. The draft Terms of Reference for the group were discussed and agreed. The Chairman for the new WG is Rolf Zetterberg, SMA, and Vice Chairman is Bill Kautz, USCG.

All relevant input documents were reviewed by the group and the work was focused on finalizing some documents that have been progressed during several meetings; Draft revision of ITU-R M1371-4, IALA Recommendation A124 and the IALA Maritime Radio Communication Plan. The work on new tasks, such as ‘AIS and VDE’ was consequently given a lower priority at this meeting, although these issues are of high relevance and importance.

The AIS and Communications WG plans for an inter-sessional meeting before eNAV13. The main topics are to progress the discussion paper on AIS and VDE and further develop the inputs to ITU WP5B with the purpose to give justification for the need for allocation of additional spectrum and indicate the planned further work to test technology and applications to be used.

Action item

The Committee Chairman is requested to seek approval for an inter-sessional meeting about to progress the discussion paper on AIS and VDE and further develop the inputs to ITU WP5B from the Secretary-General.

**9 AIS**

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

The proposed plan for finalizing the new edition of Recommendation A124, described in e-NAV12/57 was accepted. The remaining Appendices 0, 3, 9,10,11 and 12 were finalized and the Main Document updated to reflect that some Appendices will not be developed presently. Appendix 9, 10 and 11 are quite short and are kept together in one document.

Action Item

The Secretariat is requested to forward the draft revised Recommendation A-124 and its annexes (documents e-NAV12/outputs/20, 21, 22, 23 and 24) to Council for approval.

A liaison note to the ANM Committee (e-NAV12/output/36) was developed based on e-NAV12/55 informing it about changes in ITU-R M.1371 regarding AIS Msg 21 and the codes for ‘Nature and Type of AtoN’ and asked for guidance regarding codes 3 and 31.

Action Item

*The Secretariat is requested to forward the liaison note on Msg 21 (e-NAV12/output/36) to ANM19*.

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

A final review of the draft revision of ITU-R M. 1371-4 was conducted and inputs from Japan were considered and incorporated, these included:

* Clarifications for AIS SART/MOB/EPIRB devices and the use of NavStatus 15 when Under Test.
* Clarifications regarding the slotted modulation mask and transmitter test sequence and modulation accuracy.
* The inclusion of messages 25 and 26 for IFM 0 functionality - this change included adding two additional tables which required resequencing of all subsequent tables.

The draft revision is intended as an input for the next meeting of ITU WP5B and the deadline for submissions to that meeting is October 29, 2012.

Action Item

The Secretariat is requested to forward the liaison note on the draft revision of ITU-R M. 1371-4 (e-NAV12/output/19) to the Council for approval by e-mail.

If approved, the Secretariat is requested to forward the liaison note on the draft revision of ITU-R M. 1371-4 (e-NAV12/output/19) to ITU WP5B by 29 October 2012.

The Secretariat is requested to forward the draft revision of ITU-R M. 1371-4 (e-NAV12/output/18) to the Council for approval by e-mail.

If approved, the Secretariat is requested to forward the draft revision of ITU-R M. 1371-4 (e-NAV12/output/18) to ITU WP5B by 29 October 2012.

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

The work on developments of AIS and VDE continued, particularly regarding of planning inputs to ITU but no output documents were develop.

It was recognised that the work item title needed to be change to ‘Monitor and contribute to development of AIS, including VHF data exchange’ and this is reflected in e-NAV12/output/2 (proposed changes to the Work Programme).

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

No work was carried out on this agenda item*.*

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

No work was carried out on this agenda item*.*

# Communication

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

Input related to the Maritime Radio Communication Plan was reviewed, including input papers e-NAV12/17, 12/56, 12/83 and Norrkoping WD4.

A detailed review of the overall document was carried out, amending it to reflect developments in radiocommunications and e-Navigation. In addition, the sections on VHF and spectrum requirements were amended to reflect the outcome of WRC 2012.

The document was reviewed and approved. An e-mail review process by the IALA Council was requested to ensure the MRCP can be provided to ITU WP5B (deadline for input to ITU WP5B 29 October 2012).

Action Item

The Secretariat is requested to forward the liaison note on MRCP (e-NAV12/output/15) to Council for approval by email.

If approved, the Secretariat is requested to forward the liaison note on MRCP (e-NAV12/output/15) by 29 October 2012.

The Secretariat is requested to forward the revised MRCP (e-NAV12/output/16) to Council for approval by email.

If approved, the Secretariat is requested to forward the revised MRCP (e-NAV12/output/16) to ITU WP5B by 29 October 2012.

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

No work was carried out on this agenda item.

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

The WG reviewed input related to the ITU WRC-2015 agenda items 1.15 and 1.16, including input papers e-Nav12/28; 12/28A, 12/28B; 12/44, 12/45, 12/46, 12/47.

It was noted that agenda item 1.15 deals with onboard communications, which are out of the remit for IALA.  However, it was also noted that there is possible land use by Administrations. Members were asked to identify any land use of UHF frequencies for input to ITU in support of the initial inventory of spectrum use and sharing studies to be carried out in conjunction with this agenda item.

For agenda item 1.16, the time lines for submission of input were noted. It was also noted that ITU had encouraged Administrations to submit inputs to justify the additional channel requirements for review at the Nov 2012 meeting (deadline for input 29 October 2012). This item was viewed as being critical in the development process of the CPM text.

To ensure that input is provided in a timely and coordinated manner, it was agreed that a small correspondence group would be convened to support administrations providing input.  Noting the deadline for submissions, this group will look to provide assistance as the submissions are provided, noting that the technical aspects of the tests to validate use will be further discussed at an inter-sessional meeting.

Members are asked to note, with some urgency, the need to provide submissions to ITU WP5B by 29 October to justify spectrum requirements. These submissions need not contain the technical details of the testing to be carried out, but should include information suitable to justify the spectrum requirements

A liaison note was developed, e-NAV12/output/17, thanking ITU for their consideration of the input provided by IALA, including a response to WRC agenda item 1.15 and 1.16.

Action Item

Committee Members are requested to provide submissions to ITU WP5B by 29 October.

The Secretariat is requested to forward the liaison note to ITU on the WRC agenda (eNAV12/output/17) output to Council for approval.

If approved, the Secretariat is requested to forward the liaison note to ITU on the WRC agenda (eNAV12/output/17) to ITU WP5B.

The Committee expressed strongly that IALA needs to be properly represented at meetings of ITU WP5B. It was said that considerable support had been received from Christian Rissone and the USCG but that it is necessary for IALA to be represented in its own right. The Secretary-General undertook to seek dedicated IALA participation.

Action Item

The Secretary-General is requested to seek dedicated IALA participation at meetings of ITU WP5B.

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

The draft IALA Guideline on Communications in Polar Areas was progressed, taking the relevant inputs into consideration. The document seeks to establish guidelines for improved communication and dissemination of MSI (Maritime Safety Information) with ships operating in polar areas through enhanced communication systems. During review, it was agreed that some clarity is required about the target audience for the document and whether it ought to be a Guideline.

Action Item

The Secretariat is requested to forward the draft IALA Guideline on Communications in Polar Areas (e-NAV12/WG3&4/WP1) to e-NAV13.

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

No work was carried out on this agenda item*.*

# Working Group 5 – Technical Architecture (WG5)

The Technical Architecture Working Group (WG 5) met in several break-out sessions and also had a joint break-out session with the Operations Working Group (WG1). The list of relevant input documents assigned to the Architecture Working Group is given in e-NAV12/3 rev10.

The main topics at the break-out sessions of the Technical Architecture Working Group were the structure of the Maritime Service Portfolios (MSPs) and the so-called ‘Seven Pillars of e-Navigation’ at the IALA domain ‘e-navigation.net’; the structure of the MSPs will have a strong impact on the future provision of maritime service to shipping, both ‘by electronic means’ and otherwise, by IALA membership. Also, to develop the domain ‘e-navigation.net’ to *the* focal point for the emerging international e-Navigation movement, even beyond 2014, will place IALA into a strategic vanguard position in that movement.

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

The Architecture Working Group reviewed and progressed the input document e-NAV12/90 (Outline / Draft of a future document ‘Structure of the Maritime Service Portfolios (MSPs)’). The progressed document is a working document e-NAV12/WG5/WP1. It was recognized that it would be necessary to hold an inter-sessional meeting on the structure of the MSPs, in order to finalize this work by e-NAV13 (March 2013) and as an IALA contribution to the IMO NAV Correspondence Group on e-Navigation in preparation for NAV59 (September 2013). The justification required by IALA Committee procedures for inter-sessional meetings is as follows:

* The proposed inter-sessional meeting of Architecture Working Group (WG5) of the IALA e-Navigation Committee (3 days meeting) will progress or even finalize the draft document ‘Structure of the Maritime Service Portfolios (MSPs)’ and also will further develop the proposal for an e-Navigation Platform Suite / focal point at the IALA e-Navigation domain ‘e-navigation.net’.
* The meeting is planned as a face-to-face meeting to be held at IALA Headquarters, St-Germain-en-Laye, starting at 9:30 AM on Tuesday 4 December and ending at 16:00 PM Thursday 6 December 2012. The meeting will not be in conjunction with any other IALA meeting.
* The ‘compelling need’ is to prepare IALA’s contribution to NAV59 (September 2013) via the IMO NAV Correspondence Group on e-Navigation for their preparation of the e-Navigation ‘Strategy Implementation Plan (SIP)’. Since any such contribution would require the e-NAV Committee’s review and approval, relevant materials need to be available before e-NAV13 (March 2013). Hence, inter-sessional work is required, starting in 2012. The nature of that work, i.e. the development of the proposed structure of the Maritime Service Portfolio (MSPs), of the proposed ‘e-Navigation Platform Suite / Seven Pillars of e-Navigation’ and of the corresponding layout of the IALA e-Navigation domain ‘e-navigation.net’ can only be done by ‘face-to-face’ work; inter-sessional work by correspondence may provide necessary follow-up work after the initial inter-sessional meeting proposed here.

Action Items

The Secretariat is requested to forward working document e-NAV12/WG5/WP1 to e-NAV13.

The Chair of the Committee is requested to liaise, as required by IALA Committee procedures, with the Secretary General regarding the holding of the inter-sessional meeting.

If approved, the Chair of the Technical Architecture Working Group is requested to set up, in co-operation with IALA Secretariat, an inter-sessional meeting on the ‘e-Navigation Platform Suite / Structure of MSPs’.

Committee members are requested to prepare input regarding the structure of the MSPs for the planned inter-sessional meeting and/or e-NAV13.

Committee members are requested to prepare input regarding the ‘e-Navigation Platform Suite / Seven Pillars of e-Navigation’ and its representation in the IALA domain e-navigation.net for the planned inter-sessional meeting and/or e-NAV13.

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

The Architecture Working Group reviewed input document e-NAV12/23 Information Paper on the Architecture for the Provision of e-Navigation Services as seen from Ashore. This document was finalized as an Information Paper for Council (e-NAV12/output/26).

Action Item

The Secretariat is requested to forward the Information Paper for Council on Architecture for the Provision of e-Navigation Services as seen from Ashore (e-NAV12/output/26) to Council to note.

The Secretariat is requested to seek the Council’s approval to release the Information Paper for Council on Architecture for the Provision of e-Navigation Services as seen from Ashore (e-NAV12/output26) for publication in The Bulletin, NAVGUIDE and for information of the other IALA Committees and PAP.

The Architecture Working Group also prepared a contribution to the IALA NAVGUIDE (future edition 2014) in regard to section 4.6 on the e-Navigation Architecture. This was passed to the Vice Chairman who is co-ordinating the Committee’s response to the ANM Committee.

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

The WG held a joint break-out session with the Operations WG on the proposed ‘e-Navigation Platform Suite’ or the ‘Seven Pillars of e-Navigation’ (e-NAV12/84 and the presentation by Mr. David Patraiko and Mr. Jan-Hendrik Oltmann (see section 5.1.4) refer). The goal of that joint break-out session was to arrive at a common understanding how this proposal would be helpful for the work of the IMO NAV Correspondence Group on e-Navigation and how the Committee could progress this work until e-NAV13 (March 2013).

The representatives of the secretariat of the IMO NAV Correspondence Group on e-Navigation (Norway) made the statement that the above proposal does *not* contradict the studies carried out presently regarding the ‘Cost Benefit and Risk Analysis’ and that it may be helpful when preparing the ‘Strategy Implementation Plan (SIP)’ for submission to IMO in 2014. It was recognized that the above proposal in particular would be a direct contribution to the MSC stipulated chapter ‘Proposals on public relations and promotion of the e-navigation concept to key stakeholder groups’ of the SIP (MSC 86/23/4 and NAV57/6, Annex 3, refer).

It was recognized that the above proposal, once implemented, may have the potential to serve as the focal point for information and guidance for the emerging international e-Navigation movement at large and beyond the year 2014.

The joint break-out session concluded that

* the proposal of the ‘e-Navigation Platform Suite’ / ‘Seven Pillars of e-Navigation’ should be further developed within the Committee with the goal to finalize an output document to the IMO NAV Correspondence Group on e-Navigation as a contribution;
* there should be developed, based on the input document e-NAV12/84 and the above discussion, a draft contribution to the IMO NAV Correspondence Group on e-Navigation inter-sessionally and that this draft contribution would need to be available at e-NAV13;
* it should be further investigated inter-sessionally how the web-portal would need to be structured to arrive at the desired goals and that a report/presentation should be given on the findings at e-NAV13;
* an inter-sessional meeting of the Architecture WG planned to progress the concept of the structure of the Maritime Service Portfolios (MSPs) inter-sessionally, as introduced above, could also be used to progress the proposal on the ‘e-Navigation Platform Suite’.

Action Items

The Secretariat is requested to forward input document e-NAV12/84 as an input document to e-NAV13.

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.

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.

The Chair of WG5 is requested to invite members of WG1 to participate in the planned inter-sessional meeting on ‘e-Navigation Platform Suite / Structure of MSPs’.

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

## Terms of Reference

In this first meeting of the working group the Terms of Reference where discussed, resulting in output document e-NAV12/output/11. For the action item see section 19.

## Participation in the IHO GI registry

The Information Paper on IALA Participation in the IHO GI Registry was revised as requested by Council. This resulted in output document e-NAV12/output/12.

Action item

The Secretariat is requested to forward The Information Paper on IALA Participation in the IHO GI Registry (e-NAV12/output/12) to Council, requesting approval to publish it in the IALA Bulletin.

If approved for publication, the Secretariat is requested to forward The Information Paper on IALA Participation in the IHO GI Registry (e-NAV12/output/12) to the editor of The Bulletin.

## Preparing an S-100 Product Specification

During the review of document ‘Draft Guideline on Preparing an S-100 Product Specification’ it was determined that the information was sufficient as an introduction but more detailed guidance was needed. Therefore a more detailed draft Guideline on Producing an IALA S-100 Product Specification will be developed and validated at the foreseen Workshop on this subject (June 2013).

This guideline is intended to explain the process in a step-by-step manner, so that the development of product specifications for the IALA domains can be undertaken by other Committees and IALA members.

The work for the development of the guideline on “Producing an IALA S-100 product specification” will mainly be done by correspondence. However it is the opinion of Working Group that to meet the required milestones and have a mature version of the guideline before the workshop about the subject in June 2013 (see section 12.3.1) an inter-sessional meeting is needed. If approved, this meeting would be held in January 2013, preferably at IALA HQ.

Action item

The Committee Chairman is requested to seek approval for an inter-sessional meeting about producing an IALA S-100 product specification from the Secretary-General.

### S-100 Workshop

For the development of the Guideline it is necessary to liaise directly with TSMAD and IHO on subject matters.

A workshop is proposed from 18 to 21 June 2013. The goal of this workshop is to develop an understanding of the process, workload and complexity related to product specification development and data registry management.

This 4-day workshop will include:

* Introduction on the guideline;
* Explanation of example in guideline;
* Examples of product specifications in progress;
* Working group sessions to “build your own” product specification;
* Working group sessions for “expert help” with your product specification in progress.

The Draft S-100 Product Specs Workshop proposal was progressed and resulted in working document e-NAV12/output/10.

Action item

The Secretariat is requested to forward the request to hold an S-100 product Specification workshop (e-NAV12/output/10) to Council for approval.

## Prepare recommendation and guidelines on data modelling

The Working Group created:

1. Draft Guideline Procedures for the Management of the IALA Domains under the IHO GI Registry, e-NAV12/output/13.
2. Draft Guideline Introduction to Preparing S-100 Product Specifications, e-NAV12/output/14.

Action items

The Secretariat is requested to forward draft Guideline Procedures for the Management of the IALA Domains under the IHO GI Registry (e-NAV12/output/13) to Council for approval

The Secretariat is requested to forward draft Guideline Introduction to Preparing S-100 Product Specifications (e-NAV12/output/14) to Council for approval.

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

This task remains pending until IALA becomes a Domain owner / manager.

## Ownership and development of S-100 GI Registry Product Specifications.

Paper e-NAV12/29 refers.

In response to the query from the VTS Committee a liaison note was created.

Action item

The Secretariat is requested to forward the liaison note on IVEF (e-NAV12/output/34) to VTS36.

## Working Papers

Action items

The Secretariat is requested to forward e-NAV12/WG6/WP1 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP2 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP3 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP4 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP5 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP6 to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP7to e-NAV13.

The Secretariat is requested to forward e-NAV12/WG6/WP8 to e-NAV13.

# Monitor and report progress on related systems (Task 28\*)

There was nothing to report.

# Liaise with other IALA Committees and other bodies (Task 29\*)

## NAVGUIDE 2014

A liaison note (e-NAV12/output/28) was developed by the Vice Chairman from contributions from each of the working groups, informing the ANM Committee of progress to date, with a track changes version of the current NAVGUIDE at e-NAV12/output/28A.

Action item

The Secretariat is requested to forward the liaison note on the NAVGUIDE (e-NAV12/output/28) to ANM19.

The Secretariat is requested to forward the track changes version of the e-Navigation chapter of the NAVGUIDE (e-NAV12/output/28A) to ANM19.

# Prepare a combined IALA e-Navigation Plan (all Committees) (Task 30\*)

This task is complete.

# Consider the regulatory process for e-Navigation and recommend the best approach (Task 31\*)

No work was done on this agenda item.

# Future Work Programme (2014 – 2018)

e-NAV12/68 and e-NAV68a refer.

Work on this agenda item is on-going and Committee members were invited to contribute suggestions in time for e-NAV13.

Action item

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

# Review of output and working papers

During the review it was proposed that the Committee should have a task dealing with software quality assurance. This was accepted by the Committee and members were asked to provide their thoughts during e-NAV13, when it would be decided if a change to the Work Programme or an application for a new work item would be appropriate.

Action item

Committee members are requested to provide their views on including software quality assurance in the work programme at e-NAV13.

The Secretariat is requested to include an agenda item on software quality assurance in the agenda for e-NAV13.

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

## Changes to the current Work Programme

Paper e-NAV12/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 Secretary-General, Vice Chairman, Working Group Chairs and Vice Chairs and the Secretary.

# Any Other Business

## Working Group Terms of Reference (ToR)

The WG Terms of reference will be posted to the FTP server and the Committee website but are not intended for public consumption.

Action item

The Secretariat is requested to post the ToR for WG1 (e-NAV12/output/35) to the FTP server and Committee website.

The Secretariat is requested to post the ToR for WG2 (e-NAV12/output/6) to the FTP server and Committee website.

The Secretariat is requested to post the ToR for WG3&4 (e-NAV12/output/37) to the FTP server and Committee website.

The Secretariat is requested to post the ToR for WG5 (e-NAV12/output/33) to the FTP server and Committee website.

The Secretariat is requested to post the ToR for WG6 (e-NAV12/output/11) to the FTP server and Committee website.

# Review of session report

The report of the meeting (e-NAV12/output/1) was reviewed and approved by the Committee.

Action item

The Secretariat is requested to forward the report of e-NAV12 (e-NAV12/output/1) to the Council, to note.

# Date and venue of next meeting

e-NAV13 is expected to meet from 18 – 22 March, 2013 at IALA.

# Closing of the meeting

The Secretary-General remarked on the fantastic turnout and thanked the Committee for its hard work on what had been a most productive week. He said that he had just returned from a meeting in Singapore where there had been a meeting of about 200 people about the Marine Electronic Highway, where he had been asked to present his views on the future of AtoN. In his view, there is much to do in the field of safety of navigation. IMO is covering the ‘big picture’ but organisations such as IHO and IALA are making valuable contributions, not least in their inputs to the IMO Correspondence group on e-Navigation. He felt that there also much to be learned for the operations of other forms of transport.

With the recent completion of a very successful VTS2012, where the challenges faced by VTS were all too visible in the Istanbul Strait, he foresaw a growing together of e-Navigation and VTS, which are both key areas for IALA.

The Chairman raised the issue of the ‘autumn’ meeting clashing with RTCM, which is expected to happen again in 2013. There was concern over the impact that this clash has, especially with AIS and Communications but there was no obvious alternative date for e-NAV14 and the Chairman undertook to liaise with RTCM for post 2013 RTCM meeting dates.

Action item

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

The Chairman then added his thanks for what the Committee had achieved during the week and then wished everyone a safe journey home, saying that he hoped to see everyone again at e-NAV13. 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 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. Action Items

A list of action items is at Annex F.

1. Agenda

**12th Meeting of the e-Navigation Committee**

The 12th meeting of the **e-NAV Committee** will be held from 24 – 28 September, 2012 at IALA.

The opening plenary will commence at 1400 hours on Monday 24 September and the closing plenary will end at approximately 1300 on Friday 28 September.

Committee Chair, Vice-Chair and Working Group Chairs are requested to meet at 1000 hours on Monday 24 September.

Work items / Tasks being addressed during this meeting are listed in the final table of Annex G of the report of the previous meeting, which was included in the initial invitation to this meeting.

Change from e-NAV11.

**AGENDA**

1. Approval of the agenda
2. Review of action items from last meeting
3. Review of input papers & inter-sessional Working Group reports
4. Reports from other bodies:
   1. IALA Council – 53rd Session, June 2012
   2. PAP23, May 2012
   3. MSC90, May 2012
   4. NAV58, July 201253.10-1.2 Report - MSC 90.doc
5. Presentations (15 minutes duration)
   1. ACCSEAS Nick Ward
   2. Portrayal of AtoN Information on ENCs Dave Leewald
   3. Canadian implementation of e-Navigation Natacha Riendeau
   4. The e-Navigation Suite Jan-Hendrik Oltmann & David Patraiko
   5. Maritime Service Portfolio Jan-Hendrik Oltmann
   6. ISIS - A system for Standardised Data Exchange René Hogendoorn
   7. How can IALA adopt S-100 for Product Specifications? Jae Yang Park
   8. WWA update Stephen Bennett
   9. Testbed website portal Thomas Christensen
6. Establish Working Groups
7. 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\*) - Complete
   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\*) – Portrayal drafting group.
   7. Monitor developments in ECDIS, INS, and ENCs (Task 27\*)
8. 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\*)
9. 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 AtoNs) (Task 16\*)
10. 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\*)
11. 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\*)
12. WG 6 – Data Modelling
    1. Prepare Recommendations and Guidelines on data modelling
    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\*)
    1. NAVGUIDE
    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
    1. Working Group Terms of Reference (ToR)
20. Date and venue of next meeting
21. Review of session report
22. List of Participants

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|  | Suhyun Park | DSU / Republic of Korea |
|  | Jaeyang Park | KIOST / Republic of Korea |
|  | Nick Ward | GLA R&RNAV / UK |

1. List of Input Papers

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

| Number | Title / Author (if required) | Presented by / WG | Posting |
| --- | --- | --- | --- |
| e-NAV12/1 rev4 | Agenda | BC / TCM | Late |
| e-NAV12/2 | Action Items from ANM18 | BC / TCM | 1 |
| e-NAV12/3 rev9 | Papers’ List (Finalised at pre-meeting) | BC / TCM | V Late |
| e-NAV12/4 | Programme for the week (Finalised at pre-meeting) | BC / TCM | 1 |
| e-NAV12/5 | Report of PAP23 | BC / TCM | 1 |
| e-NAV12/6 | Updating Ch4 of the IALA NAVGUIDE | 1 | 1 |
| e-NAV12/7 | e-Navigation Roadmap | 1 | 1 |
| e-NAV12/8 | Liaison note from ANM on risk management guideline | 1 | 1 |
| e-NAV12/9 | Draft revised 1018 Ed3 Risk Management | 1 | 1 |
| e-NAV12/10 | Liaison note from ANM on the e-NAV plan for the review of the NAVGUIDE | 1 | 1 |
| e-NAV12/11 | Liaison note From ANM on the NAVGUIDE review | 1 | 1 |
| e-NAV12/12 | NAVGUIDE 2014 Action Plan | 1 | 1 |
| e-NAV12/13 | NAVGUIDE 2014 Timetable | 1 | 1 |
| e-NAV12/14 | Information paper on changes to radar frequency | 2 | 1 |
| e-NAV12/15 | Draft performance specification for NAV59 | 2 | 1 |
| e-NAV12/16 | Draft Guideline on Polar Communications | 4 | 1 |
| e-NAV12/17 | Draft revised IALA MRCP Ed1\_29Mar2012 | 4 | 1 |
| e-NAV12/18 | Developing the AIS and VDE Plan for e-Navigation | 4 | 1 |
| e-NAV12/19 | Liaison Note from ANM on draft GSMD guideline | 4 | 1 |
| e-NAV12/20 | Functional Requirements For Shipboard Technical Architecture As Seen From Ashore | 5 | 1 |
| e-NAV12/21 | Draft Proposal for the IMO/IHO Harmonisation Group on Data Modelling (HGDM) Initial Domain set-up for the IHO Registry | 6 | 1 |
| e-NAV12/22 | Changes proposed for consideration by IHO | 6 | 1 |
| e-NAV12/23 | Draft Architecture 101 Information Paper | 5 | 1 |
| e-NAV12/24 | Liaison Note to from EEP on contribution to e-Navigation | 1 | 1 |
| e-NAV12/25 | Liaison Note from EEP on Training Requirements | 2 | 1 |
| e-NAV12/26 | Liaison note from EEP on AtoN Product Specification | 6 | 1 |
| e-NAV12/27 | AtoN Metadata Product Specification - review | 6 | 1 |
| e-NAV12/28 | Liaison Statement from ITU-R WP5B WRC-15 Agenda item 1.16 | 4 | 1 |
| e-NAV12/28A | Draft CPM text WRC-15 Agenda item 1.16 | 4 | 1 |
| e-NAV12/28B | Draft workplan - WRC-15 agenda item 1.1 | 4 | 1 |
| e-NAV12/29 | Liaison note from VTS on the IVEF Product Specification | 6 | 1 |
| e-NAV12/30 | Liaison note from VTS on response on Portrayal Guidelines | 1 / DG | 1 |
| e-NAV12/31 | Communications in Polar Areas | 4 | 1 |
| e-NAV12/32 | Revision of Recommendation R-129 | 2 | 1 |
| e-NAV12/33 | Draft revision e-NAV-140 (Ed2) | 5 | 1 |
| e-NAV12/34 rev2 | Proposed data modelling group | 6 | Late |
| e-NAV12/35 | What Does WG5 Want from the TSMAD Meeting | 6 | 1 |
| e-NAV12/36 | IHO-IALA Meeting Report | 6 | 1 |
| e-NAV12/37 | The IHO S-100 Standard and e-Navigation Information | 6 | 1 |
| e-NAV12/38 rev1 | Draft ToR WG1 - Ops | 1 | 7 |
| e-NAV12/39 rev1 | Draft ToR WG2 - PNT | 2 | 7 |
| e-NAV12/40 rev2 | Draft ToR WG3 - AIS | 3&4 | 7 |
| e-NAV12/41 | Draft ToR WG4 - Communications | 3&4 | 1 |
| e-NAV12/42 rev1 | Draft ToR WG5 – Technical Architecture | 5 | 7 |
| e-NAV12/43 rev2 | Draft ToR WG6 – Domain Management | 6 | 1 |
| e-NAV12/44 | Liaison statement from ITU-R WRC AI1.15 | 4 | 1 |
| e-NAV12/45 | Temp draft CPM Workplan for AI 1.15 | 4 | 1 |
| e-NAV12/46 | Temp draft CPM Text for AI 1.15 | 4 | 1 |
| e-NAV12/47 | Presentation WRC AI 1.15 | 4 | 1 |
| e-NAV12/48 | Revised Meeting programme for 2012 post C53 | All | 2 |
| e-NAV12/49 | Report of C53 | BC / TCM | 2 |
| e-NAV12/50 | IALA WWA L2 Model Course Module 9 Radionavigation | 2 | 2 |
| e-NAV12/51 | Liaison Note from WWA to eNav and EEP on Level 2 Model Course Module 9 | 2 | 2 |
| e-NAV12/52 | Norrkoping Output 01 Report of the intersessional WG3 + WG 4 meeting July -12 | 3 | 2 |
| e-NAV12/53 | Norrkoping Output 02 (Liaison to ITU re 1371)-rev1 | 3 | 2 |
| e-NAV12/54 | Norrkoping Output 02-Annex-draft-revision-to-M 1371-4 | 3 | 2 |
| e-NAV12/55 | Norrkoping Output 03 (Liaison to ANM re 1371)-rev1 | 3 | 2 |
| e-NAV12/56 | Norrkoping Output 04 MRCP Ed2\_ 13jul2012 | 3 | 2 |
| e-NAV12/57 | Norrkoping Output 05 Plan for finalizing Rec A 12 | 3 | 2 |
| e-NAV12/58 | Norrkoping Output 07 Draft A124 Appendix 12 | 3 | 2 |
| e-NAV12/59 | Norrkoping Output 08 Rec A124 main documen Ed 2.1 | 3 | 2 |
| e-NAV12/60 | Norrkoping Output 06 Draft A-124 ed2.0 Appendix9-10-11 Functional description of AIS components | 3 | 2 |
| e-NAV12/61 | Report of NAV58 | 1 / All | 2 |
| e-NAV12/62 | IALA Participation in IHO Registry | 6 | 2 |
| e-NAV12/63 | Draft Guideline Procedures for the Management of the IALA Domains under the IHO Registry | 6 | 2 |
| e-NAV12/64 | Draft Guideline on Preparing an S-100 Product Specification | 6 | 2 |
| e-NAV12/65 | Disaster Recovery | 2 | 3 |
| e-NAV12/66 | e-Navigation Test-Beds | 1 | 3 |
| e-NAV12/67 | AIS AtoN | 3 | 3 |
| e-NAV12/68 | 2014-18 Work Programme | All | 3 |
| e-NAV12/68A | Draft Committee workplan 2014-18 (Annex to e-NAV12/68) | All | 3 |
| e-NAV12/69 | e-NAV portrayal and user needs - ICS | 1 / DG | 3 |
| e-NAV12/70 | Cover note for AtoN Information Product Specification | 6 | 3 |
| e-NAV12/71 | Draft AtoN Information Product Specification | 6 | 3 |
| e-NAV12/72 | Revisions to the World Wide Radio Navigation Plan | 2 | 3 |
| e-NAV12/73 | Draft revision of R-129 Ed2 GNSS Vulnerability and Mitigation Measures\_Dec2008 | 2 | 3 |
| e-NAV12/74 | Liaison Note from WWA to eNav and EEP on Level 2 Model Course Module 9 | 2 | 4 |
| e-NAV12/75 | AIS AtoN | 1 | 4 |
| e-NAV12/76 | Appendix NAV 58-WP.7 - Development of policy and new symbols for AIS AtoN | 1 | 4 |
| e-NAV12/77 | Report of Channel Management Operation in Tokyo bay | 3 | 4 |
| e-NAV12/78 | Update on R-121-Accuracy\_with comments | 2 | 4 |
| e-NAV12/79 | R-121 Ed1 1 Performance and Monitoring of DGNSS Services in the Frequency Band 283 5 325 | 2 | 4 |
| e-NAV12/80 | AMSA Usability workshop information | INF | 4 |
| e-NAV12/81 | Report to the IMO CG on e-Navigation | 1 / All | 6 |
| e-NAV12/82 | Report to the IMO CG on e-Navigation to COMSAR 17 Australia's comments | 1 / All | 6 |
| e-NAV12/83 | Proposed modifications to e-NAV12-56 (Norrkoping Output 04 MRCP Ed2 | 3 | 6 |
| e-NAV12/84 | The ‘e-Navigation Platform Suite’ – an introduction | ALL | 6 |
| e-NAV12/85 | Limitation of CSTDMA | 3 | 7 |
| e-NAV12/86 | Discussion paper for the development of IALA Guidelines on GNSS augmentation services for port and docking | 2 | 7 |
| e-NAV12/87 | Development of guidelines on GNSS augmentation services for port and docking | 2 | 7 |
| e-NAV12/88 | Draft IALA Guideline - Portrayal of e-Nav Info | 1 / DG | 7 |
| e-NAV12/89 | Maritime Information S-100 Product Specification | 6 | Late |
| e-NAV12/90 | Strawman/Draft The Structure Of Maritime Service Portfolios (MSP) | 5 | Late |
| e-NAV12/91 | Draft S-100 Product Specs Workshop proposal | 6 | Late |
| e-NAV12/92 | Comments on the Draft AtoN Information Product Specification | 6 | VLate |
| e-NAV12/93 | Liaison note from VTS on Plan for AIS and VDE | 3 | VLate |
| e-NAV12/94 | Report from MSC90 | BC/TCM | VLate |
| e-NAV12/95 | Editable version of NAVGUIDE 2010 | All | VLate |

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-NAV12/output/1 | Draft e-NAV12 Report | To Council to note |
| e-NAV12/output/2 | Proposed changes to the Work Programme | To Council to approve |
| e-NAV12/output/3 | Liaison note to PAP-Strategy on e-Navigation Strategy items | To PAP/Strategy Group to note |
| e-NAV12/output/4 | Liaison note to IMO CG on e-Navigation | To IMO CG on e-Navigation by 1 October 2012 |
| e-NAV12/output/5 | Comments on report of the IMO CG | To IMO CG on e-Navigation by 1 October 2012 |
| e-NAV12/output/6 | WG2 ToR | To FTP server & Committee website |
| e-NAV12/output/7 | Liaison to EEP on e-Navigation | To EEP19 |
| e-NAV12/output/8 | Liaison to ANM on risk management guideline | To ANM19 |
| e-NAV12/output/9 | Comments on guideline on risk management | To ANM19 |
| e-NAV12/output/10 | S-100 workshop proposal | To Council to approve |
| e-NAV12/output/11 | TOR Data Model and Interfacing Technical Working Group | To FTP server & Committee website |
| e-NAV12/output/12 | Information paper on IALA Participation in IHO GI Registry | To Council to approve |
| e-NAV12/output/13 | Draft Guideline Procedures for the Management of the IALA Domains under the IHO GI Registry | To Council to approve |
| e-NAV12/output/14 | Draft Guideline Introduction to Preparing S-100 Product Specification | To Council to approve |
| e-NAV12/output/15 | Liaison to ITU on MRCP | To Council to approve.  Deadline for submission to ITU 29 October |
| e-NAV12/output/16 | Draft revised MRCP | To Council to approve.  Deadline for submission to ITU 29 October |
| e-NAV12/output/17 | Liaison Note to ITU-R Working Party 5B  WRC-15 Agenda Items 1.15 and 1.16 | To Council to approve |
| e-NAV12/output/18 | Preliminary draft revision of Recommendation ITU-R M.1371-4 | To Council to approve  Deadline for submission to ITU 29 October |
| e-NAV12/output/19 | Liaison to ITU on M.1371-4 | To Council to approve  Deadline for submission to ITU 29 October |
| e-NAV12/output/20 | Draft revised A-124 Ed 2.0 Main document | To Council to approve |
| e-NAV12/output/21 | A-124 Ed2.0 A00 Glossary | To Council to approve |
| e-NAV12/output/22 | A-124 Ed 2.0 A03 Distribution Model | To Council to approve |
| e-NAV12/output/23 | A-124 Ed 2.0 A09-10-11 Functional description of AIS components | To Council to approve |
| e-NAV12/output/24 | A124 Ed 2.0 A12 co-location issues | To Council to approve |
| e-NAV12/output/25 | R-129 Ed2 GNSS Vulnerability and Mitigation Measures | To Council to approve |
| e-NAV12/output/26 | Draft Architecture Information Paper | To Council to approve |
| e-NAV12/output/27 | Updated FAQs | To Council to approve |
| e-NAV12/output/28 | Liaison note to ANM on the NAVGUIDE | To ANM19 |
| e-NAV12/output/28A | Track changes revised e-Navigation chapter of the NAVGUIDE | To ANM19 |
| e-NAV12/output/29 | Liason Note to EEP on WWA L2 Model Course Module 9 Radionavigation | To EEP19 |
| e-NAV12/output/29a | e-NAV review of WWA L2 Model Course Module 9 Radionavigation | To EEP19 |
| e-NAV12/output/30 | Draft revised IALA WWRNP | To Council to approve |
| e-NAV12/output/31 | Draft IALA Guideline on Harmonised Portrayal of e-Navigation Information | To PAP, VTS36, EEP19 & ANM19 for comment |
| e-NAV12/output/32 | Liaison Note to PAP VTS EEP ANM on draft IALA Guideline on Harmonised Portrayal of e-Navigation Information | To PAP, VTS36, EEp19 & ANM19 to note |
| e-NAV12/output/33 | WG5 ToR | To FTP server & Committee website |
| e-NAV12/output/34 | Liaison note to VTS on the IVEF Product Specification | To VTS36 |
| e-NAV12/output/35 | WG1 ToR | To FTP server & Committee website |
| e-NAV12/output/36 | Liaison note to ANM on AIS AtoN | To ANM19 |
| e-NAV12/output/37 | WG3&4 ToR | To FTP server & Committee website |

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

|  |  |  |
| --- | --- | --- |
| Number | Title | Status |
| e-NAV12/WG1/WP1 | Draft review of IALA NAVGUIDE | To e-NAV13 |
| e-NAV12/WG1/WP2 |  | To e-NAV13 |
|  |  |  |
| e-NAV12/WG2/WP1 | Development of guidelines on GNSS augmentation services for port and docking | To e-NAV13 |
| e-NAV12/WG2/WP2 | Port and docking system guidelines mindmap | To e-NAV13 |
| e-NAV12/WG2/WP3 | Input on Disaster Recovery | To e-NAV13 |
|  |  |  |
| e-NAV12/WG3&4/WP1 | Draft Guideline on Polar Communications | To e-NAV13 |
|  |  |  |
| e-NAV12/WG5/WP1 | Draft Document The Structure Of Maritime Service Portfolios (MSPs) | To e-NAV13 |
|  |  |  |
| e-NAV12/WG6/WP1 | Draft Proposal for the IMO/IHO Harmonisation Group on Data Modelling (HGDM) | To e-NAV13 |
| e-NAV12/WG6/WP2 | Changes proposed for consideration by IHO | To e-NAV13 |
| e-NAV12/WG6/WP3 | AtoN Metadata Product Specification Review | To e-NAV13 |
| e-NAV12/WG6/WP4 | IHO-IALA Meeting Report | To e-NAV13 |
| e-NAV12/WG6/WP5 | The IHO S-100 Standard and e-Navigation Information | To e-NAV13 |
| e-NAV12/WG6/WP6 | AtoN Information - draft Product Specification | To e-NAV13 |
| e-NAV12/WG6/WP7 | Maritime Information S-100 draft Product Specification | To e-NAV13 |
| e-NAV12/WG6/WP8 | Liaison note from VTS to e-NAV AtoN Information draft Product Specification | To e-NAV13 |
|  |  |  |
| e-NAV12/C&VC/WP1 | Road map | To e-NAV13 |

1. Action items

Action Items for the IALA Secretariat

1. The Secretariat is requested to forward the IMO comments on the amendment of SMCP to the VTS Committee. 14
2. The IALA Secretariat is requested to forward the liaison note (e-NAV12/output/4) to the IMO CG on e-Navigation to the Co-ordinator of the IMO CG on e-Navigation by Monday, 1 October 2012. 15
3. The IALA Secretariat is requested to forward the comments on the draft report of the IMO CG on e-navigation (e-NAV12/output/5) to the Co-ordinator of the IMO CG on e-Navigation by Monday, 1 October 2012. 15
4. The IALA Secretariat is requested to forward the road map for e-Navigation (e-NAV12/C&VC/WP1) to e-NAV13. 15
5. The IALA Secretariat is requested to forward the revised FAQs on e-Navigation (e-NAV12/output/27) to the IALA Council for approval. 15
6. If approved, the IALA Secretariat is requested to post the e-Navigation FAQs (e-NAV12/output/27) on the IALA website. 15
7. The IALA Secretariat is requested to forward the working paper on the IALA NAVGUIDE (e-NAV12/WG1/WP1) to the next session to e-NAV13. 16
8. The IALA Secretariat is requested to forward the liaison note on e-Navigation (e-NAV12/output/7) to EEP19. 16
9. The IALA Secretariat is requested to forward the liaison note on IALA Guideline 1018 (e-NAV12/output/8) to ANM19. 16
10. The IALA Secretariat is requested to forward the marked up version of IALA Guideline No.1018 (e-NAV12/output/9) to ANM19. 16
11. The Secretariat is requested to forward the liaison note on the draft Guideline on Harmonised Portrayal of e-Navigation Information (e-NAV12/output/32) to PAP24, VTS36, EEP19 & ANM19. 17
12. The Secretariat is requested to forward the draft Guideline on Harmonised Portrayal of e-Navigation Information (e-NAV12/output/31) to PAP24, VTS36, EEP19 & ANM19. 17
13. The Secretariat is requested to forward the revised WWRNP (e-NAV12/output/30) to the Council for approval. 17
14. The Secretariat is requested to forward the revised Recommendation R-129 (e-NAV12/output/25) to the Council for approval. 18
15. The Secretariat is requested to forward the liaison note regarding the revised level 2 course structure (e-NAV12/output/29) to EEP19. 18
16. The Secretariat is requested to forward the revised level 2 course structure (e-NAV12/output/29a) to EEP19. 18
17. The Secretariat is requested to forward e-NAV12/WG2/WP1 (Development of guidelines on GNSS augmentation services for port and docking) to e-NAV13. 18
18. The Secretariat is requested to forward e-NAV12/WG2/WP2 (Port and docking system guidelines mindmap) to e-NAV13. 18
19. The Secretariat is requested to forward e-NAV12/WG2/WP3 (Input to disaster recovery) to e-NAV13. 18
20. The Secretariat is requested to raise the question of topic responsibility for disaster recovery at PAP24. 19
21. The Secretariat is requested to forward the draft revised Recommendation A-124 and its annexes (documents e-NAV12/outputs/20, 21, 22, 23 and 24) to Council for approval. 19
22. The Secretariat is requested to forward the liaison note on the draft revision of ITU-R M. 1371-4 (e-NAV12/output/19) to the Council for approval by e-mail. 20
23. If approved, the Secretariat is requested to forward the liaison note on the draft revision of ITU-R M. 1371-4 (e-NAV12/output/19) to ITU WP5B by 29 October 2012. 20
24. The Secretariat is requested to forward the draft revision of ITU-R M. 1371-4 (e-NAV12/output/18) to the Council for approval by e-mail. 20
25. If approved, the Secretariat is requested to forward the draft revision of ITU-R M. 1371-4 (e-NAV12/output/18) to ITU WP5B by 29 October 2012. 20
26. The Secretariat is requested to forward the liaison note on MRCP (e-NAV12/output/15) to Council for approval by email. 21
27. If approved, the Secretariat is requested to forward the liaison note on MRCP (e-NAV12/output/15) by 29 October 2012. 21
28. The Secretariat is requested to forward the revised MRCP (e-NAV12/output/16) to Council for approval by email. 21
29. If approved, the Secretariat is requested to forward the revised MRCP (e-NAV12/output/16) to ITU WP5B by 29 October 2012. 21
30. The Secretariat is requested to forward the liaison note to ITU on the WRC agenda (eNAV12/output/17) output to Council for approval. 21
31. If approved, the Secretariat is requested to forward the liaison note to ITU on the WRC agenda (eNAV12/output/17) to ITU WP5B. 21
32. The Secretary-General is requested to seek dedicated IALA participation at meetings of ITU WP5B. 22
33. The Secretariat is requested to forward the draft IALA Guideline on Communications in Polar Areas (e-NAV12/WG3&4/WP1) to e-NAV13. 22
34. The Secretariat is requested to forward working document e-NAV12/WG5/WP1 to e-NAV13. 23
35. The Secretariat is requested to forward the Information Paper for Council on Architecture for the Provision of e-Navigation Services as seen from Ashore (e-NAV12/output/26) to Council to note. 23
36. The Secretariat is requested to seek the Council’s approval to release the Information Paper for Council on Architecture for the Provision of e-Navigation Services as seen from Ashore (e-NAV12/output26) for publication in The Bulletin, NAVGUIDE and for information of the other IALA Committees and PAP. 23
37. The Secretariat is requested to forward input document e-NAV12/84 as an input document to e-NAV13. 24
38. The Secretariat is requested to forward The Information Paper on IALA Participation in the IHO GI Registry (e-NAV12/output/12) to Council, requesting approval to publish it in the IALA Bulletin. 24
39. If approved for publication, the Secretariat is requested to forward The Information Paper on IALA Participation in the IHO GI Registry (e-NAV12/output/12) to the editor of The Bulletin. 24
40. The Secretariat is requested to forward the request to hold an S-100 product Specification workshop (e-NAV12/output/10) to Council for approval. 25
41. The Secretariat is requested to forward draft Guideline Procedures for the Management of the IALA Domains under the IHO GI Registry (e-NAV12/output/13) to Council for approval 25
42. The Secretariat is requested to forward draft Guideline Introduction to Preparing S-100 Product Specifications (e-NAV12/output/14) to Council for approval. 26
43. The Secretariat is requested to forward e-NAV12/WG6/WP1 to e-NAV13. 26
44. The Secretariat is requested to forward e-NAV12/WG6/WP2 to e-NAV13. 26
45. The Secretariat is requested to forward e-NAV12/WG6/WP3 to e-NAV13. 26
46. The Secretariat is requested to forward e-NAV12/WG6/WP4 to e-NAV13. 26
47. The Secretariat is requested to forward e-NAV12/WG6/WP5 to e-NAV13. 26
48. The Secretariat is requested to forward e-NAV12/WG6/WP6 to e-NAV13. 26
49. The Secretariat is requested to forward e-NAV12/WG6/WP7to e-NAV13. 26
50. The Secretariat is requested to forward e-NAV12/WG6/WP8 to e-NAV13. 26
51. The Secretariat is requested to forward the liaison note on the NAVGUIDE (e-NAV12/output/28) to ANM19. 26
52. The Secretariat is requested to forward the track changes version of the e-Navigation chapter of the NAVGUIDE (e-NAV12/output/28A) to ANM19. 26
53. The Secretariat is requested to include an agenda item on software quality assurance in the agenda for e-NAV13. 27
54. The Secretariat is requested to post the ToR for WG1 (e-NAV12/output/35) to the FTP server and Committee website. 27
55. The Secretariat is requested to post the ToR for WG2 (e-NAV12/output/6) to the FTP server and Committee website. 27
56. The Secretariat is requested to post the ToR for WG3&4 (e-NAV12/output/37) to the FTP server and Committee website. 28
57. The Secretariat is requested to post the ToR for WG5 (e-NAV12/output/33) to the FTP server and Committee website. 28
58. The Secretariat is requested to post the ToR for WG6 (e-NAV12/output/11) to the FTP server and Committee website. 28
59. The Secretariat is requested to forward the report of e-NAV12 (e-NAV12/output/1) to the Council, to note. 28

Action items for members

1. The Committee Chairman is requested to seek approval for an inter-sessional meeting about to progress the discussion paper on AIS and VDE and further develop the inputs to ITU WP5B from the Secretary-General. 19
2. Committee Members are requested to provide submissions to ITU WP5B by 29 October. 21
3. The Chair of the Committee is requested to liaise, as required by IALA Committee procedures, with the Secretary General regarding the holding of the inter-sessional meeting. 23
4. If approved, the Chair of the Technical Architecture Working Group is requested to set up, in co-operation with IALA Secretariat, an inter-sessional meeting on the ‘e-Navigation Platform Suite / Structure of MSPs’. 23
5. Committee members are requested to prepare input regarding the structure of the MSPs for the planned inter-sessional meeting and/or e-NAV13. 23
6. Committee members are requested to prepare input regarding the ‘e-Navigation Platform Suite / Seven Pillars of e-Navigation’ and its representation in the IALA domain e-navigation.net for the planned inter-sessional meeting and/or e-NAV13. 23
7. 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. 24
8. 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. 24
9. The Chair of WG5 is requested to invite members of WG1 to participate in the planned inter-sessional meeting on ‘e-Navigation Platform Suite / Structure of MSPs’. 24
10. The Committee Chairman is requested to seek approval for an inter-sessional meeting about producing an IALA S-100 product specification from the Secretary-General. 25
11. Committee members are requested to contribute suggestions for inclusion in the 2014 – 2018 Work Programme as inputs to e-NAV13 27
12. Committee members are requested to provide their views on including software quality assurance in the work programme at e-NAV13. 27
13. The Chairman is requested to liaise with RTCM about its post 2013 meeting programme. 28