**Report of AIS TECHNICAL WORKING GROUP of the IALA e-Nav Committee**,  
 10th intersessional meeting held 7-11 February 2011, in Melbourne, Australia

1. **Introduction**

The AIS Technical Working Group (TWG) of the IALA e-NAV Committee held an intersessional meeting in Melbourne, Australia, from 7 to 11 February 2011, hosted by Australian Maritime Safety Administration (AMSA) and the Port of Melbourne. The venue was Port of Melbourne Port Education Centre, Lorimer Street, Melbourne. The chair of the meeting was Mr. Rolf Zetterberg and the vice chair was Mr. Jorge Arroyo.   
  
The TWG was welcomed by Mr John Young, AMSA, who described the use of and expressed the importance of AIS to AMSA. Mr Frank D´Souza , Port of Melbourne, also welcomed the TWG and presented key facts of the port. Both wished the participants a successful meeting and a pleasant stay in Melbourne.

The main objectives of the meeting was to continue the work started at previous meetings with the revision of IALA documents A-124 and A-126, amend the Technical Clarifications to ITU-R M.1371-4 and start the work on a document with recommendation on the implementation of Application Specific Messages (ASM), with regard to IMO SN.1/Circ. 289 and regional/local messages.  
  
 **2. Presentations**

Mr. Robert Tremlett and Ms. Peggy Browning, both representing exactEarth, gave an introduction to possible future functionality of satellite based AIS and invited the TWG to consider these possibilities in its future work. It was decided to add an Annex on satellite AIS to IALA Recommendation A-124, which presently is reviewed by the TWG,

***Action items:***

***Ms. Peggy Browning*** *is asked to draft an Annex on satellite AIS, for possible inclusion in A- 124.*

1. **Progress made**

**3.1 Revision of A-124**

A review of the prioritization of the work on A-124 annexes was performed. Annex 5 – “Interfacing model” has been reviewed and approved by the working group. Annex 13 – “Recommendations regarding efficient operation and maintenance” priority was changed from a priority 3 to a priority 2.

Annex 3 – “Distribution Model” has also been reviewed briefly by Jens Jensen and will retain its status as a working document for now.

Annex 14 – “FATDMA planning and operation” has been review in liaison with the EfficienSea project and it was concluded that a lot of thought has been put into its writing and most of the content needed to be preserved. Mr. Jens Jensen identified that the recommendations it contained was reaching its limits when confronted with current uses of the VDL such as ASM and the use of AIS repeaters. Some guidance was added to the annex to address these comcerns. EfficienSea is currently developing open source software to help FATDMA planning that will be compatible with the content of Annex 14 and potentially also Annex 3.

It was identified that Annex 16 – “DGNSS broadcast via the AIS service” needs to be reviewed by an authority who is using this particular feature of the AIS in order to ensure that the advice it provides is correct.

A lot of effort was put into reviewing Annex 17 – “Channel management” which yielded some additional clarifications to ITU M.1371-4. Annex 17 is still missing some elements, but should be completed for eNav9.

It was identified that Annex 18 – “VDL loading management” is a priority 1 annex and had not been tasked yet. This annex needs to be created and its future content was discussed.

Exactearth has agreed to create a draft for a new Annex. Annex 19 – “Satellite AIS considerations” should be ready for review by the working group at eNav10.

As a result of this work, the main document of A-124 as well as Annex 4 – “Interaction and data flow model” had some minor changes made to them to correspond with the changes made in the Annexes. Both documents will be re-published as working documents of this meeting. The status table of A-124 Annexes has also been updated accordingly and will be presented as a working document of this meeting.

The working group also noticed that many of the Annexes of A-124 contained references to e-Navigation documents that have yet to be published. As the AIS working group is closing in onto a publication date for A-124 edition 2.0, this matter will need to be addressed in order to resolve any unavailable references.

The future work on the new edition was discussed and the prioritization list (working document 10) was updated.

***Action items:***

* ***Mr. Stefan Bober*** *is asked to review Annex 16 and submit the results to the chair prior to the eNav 9 meeting.*
* ***Mr.’s Jorge Arroyo and Brian Tetreault****.* *are asked to create a draft version of the Annex13 for eNav9 based on their work on inland waterways.*
* ***Mr. Jean-Francois Coutu*** *is asked to work with* ***Ross Norsworthy*** *to finish Annex 17*.
* ***Mr. Jean-Francois Coutu*** *is asked to develop a draft for Annex 18.*
* *The* ***chair of the TWG*** *is asked to distribute all edited documents of A-124 for review and comments to the TWG.*

**3.2 Guideline on AIS Overview**

The TWG reviewed Melbourne input papers 07 and 09, referring to the comments received from IALA Council 50. The TWG noted each of the proposed changes and comments, addressing each as deemed appropriate. Two versions of the document were then created – a ‘track changes’ document that identified responses to the comments made, and a ‘clean’ version. Changes included a more detailed review of the AIS documentation table, which now includes a number of additional documents.

***Action items:***

* *The* ***Chair of the AIS TWG*** *is asked to forward the revised draft IALA Guideline – an AIS Overview – to the Chairman of the IALA e-Nav committee, with a request to verify the process by which the document can be forwarded for publication.*

**3.3 Amendments to IALA Guideline A-126**

The TWG reviewed A-126 and created a working document which is a draft revision. The main tasks in this work on this draft were:  
- Note that AIS AtoN is a “service”, usually but not always implemented by AIS AtoN units.  
- Revision of the sections on Virtual and Synthetic AIS AtoN  
- Including reference to IALA O-143 and IALA 1081  
- Take account of IMO SN.1/Circ.289 Guidance on the use of AIS ASM  
- Align the text on supplementary messages from AIS AtoN more closely to IEC-62320-2

The concept of an AIS AtoN station controller and its impact on the VDL was discussed without conclusion. The revision of A-126 was progressed but not completed.

***Action items:***

* *The* ***Chair of the TWG*** *is asked to distribute the working document to the TWG for further work.*

**3.4 Response to IMO NAV57 input paper from Japan on AIS AtoN**

The TWG was made aware that Japan would submit an input paper to IMO NAV57, following developments in MSC88 in 2010 regarding AIS AtoN symbols and use. In anticipation of this paper, the TWG drafted a response paper to . The paper describes the work and responsibilities of IALA and of IALA members in connection with the planning, installation, operation, and maintenance of AIS AtoN. The TWG considered making this its draft paper in the form of an INF paper to IMO NAV57 this June, but concluded that a response paper would have more impact; either form would need to be approved by IALA Council, before being sent.

It asks IMO to:

* Note the work of IALA to provide guidance to AtoN authorities on the correct planning, installation, configuration, operation, and monitoring of AIS AtoN.
* Note that each IALA member is responsible for AtoN (including AIS AtoN) policy in its country or territory.
* Take note of the guidance documents related to AIS issued by IALA
* Consider whether IALA documentation may be used to assist in the education of mariners in the benefits and use of AIS AtoN.

***Action items:***

* *The* ***Chair of the TWG*** *is asked to distribute the working paper to the TWG..*
* *The* ***Chair of the TWG*** *is asked to inform IALA SG and the chairman of the eNAV committee on the plans in IMO to develop a policy for the use of AIS AtoN.*

**3.5 Liaison note from EEP**

The TWG reviewed Melbourne input 08 – liaison note from the EEP Committee regarding AtoN monitoring and AIS power consumption. The TWG noted that the current revision process for A-126 may be of interest to EEP t. The TWG further noted that there were no activities underway in the AIS TWG that would have an effect on power consumption, however, their note will be kept in mind for future work that may.

A liaison to the EEP Committee was drafted.

***Action items***

* *The* ***Chair of the TWG*** *is asked to forward the draft liaison note from the e-Nav Committee to the EEP Committee to e-Nav 9 for review and approval.*

**3.6 Application Specific Messages**

The TWG reviewed Melbourne inputs 10, 11, 12, 26 and 28, all relating to AIS ASM. The TWG noted a need for guidance to IALA members (and others) regarding their implementation. In pursuit of this guidance, the TWG developed an outline document to be forwarded to the next AIS TWG Intersessional meeting for further development.

***Action items***

* *The* ***Chair of the TWG*** *is asked to forward the draft IALA document on implementation of ASM to the next IALA AIS TWG intersessional meeting for further development*
* ***Members of the TWG*** *are asked to review the draft outline for the draft IALA document on implementation of application specific messages and provide comments / input to the next IALA AIS TWG intersessional*
* ***Jorge Arroyo*** *is asked to**liaise with the chairman of IMONAV on intended future IMO actions on the ITU liaison regarding the need for technical clarifications on ASM*

**3.7 Technical Clarifications to ITU- R M.1371-4**

In a liaison statement, ITU-R WP5B approved the proposed Technical Clarifications by eNAV 8 and asked IALA to develop a draft revision of 1371-4 and include the proposed Technical Clarifications. The WG developed a revision of 1371-4, but considered it premature to submit it to ITU\_R WP 5B, given the further changes expected after IMO NAV 57 in June.

After informal liaison with ITU-R 5B it was decided to introduce a new format for the Technical Clarifications. The clarifications and proposed changes will be indicated directly in a Word-copy as a preliminary draft of a future version of ITU-R M. 1371. This work method will reduce the workload both for IALA and ITU and reduce the risk of introducing errors during the process.

***Action items:***

* *The C****hair of the TWG*** *is asked to distribute the Preliminary Draft of ITU-R M1371-X to the TWG.*
* *The* ***Chair of the TWG*** *is asked to request that the IALA representative to ITU meet with the AIS TWG during eNAV 9.*

1. **Tests of AIS SART**

During the week trials of different types of AIS search and rescue transmitters were carried out, along with a trial of a prototype AIS EPIRB and the new Sat AIS message. AMSA organised the trials, with a launch from Hastings and aircraft cover from Essendon. As part of a series of international tests of the equipment, trial participants included representatives from Japan, Germany, Canada, USA and UK. Equipment was provided by companies in Germany, Norway, USA and Australia.   
  
Detection ranges varied with the aircraft altitude, from 25-35 NM at 1000 feet up to 120-130 NM at 20000 feet

1. **Next Meeting**

The next meeting will take place during eNav9 in Copenhagen, March 14-18, 2011.  
The German Federal Waterways Administration has invited the TWG to meet 4-8 July 2011 in Koblenz.

1. **The Final Plenary**

This report was considered, amended and accepted as representing the actual progress made and the results of the meeting in Melbourne, Australia.

The chair thanked AMSA and the Port of Melbourne for hosting the meeting, providing the facilities, and, coordinating a tour of VTS Melbourne; and, to Australia Maritime Systems (AMS) for sponsoring a boat tour of Melbourne harbour.

The chair also thanked all participants for their attendance and contributions to the discussions and wished everybody a safe journey home.

**Rolf Zetterberg**

Chair AIS Technical Working Group of IALA eNav Committee**.**

**Annex A:**

**Participation.**

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| **Name** | **Organization** | **Country** |
| Arroyo, Jorge  Vice chair AIS TWG | USCG | USA |
| Bober, Stefan | Federal Waterways and Shipping Adm | Germany |
| Browning, Peggy | exactEarth | USA |
| Card, Michael | Zeni Lite Buoy Co | Japan |
| Carson-Jackson, Jillian | AMSA | Australia |
| Coutu, Jean Francois | CCG | Canada |
| Dominguez, Alfredo | Tideland Signal Corp | USA |
| Furuyama, Kenji | Japan Radio Company | Japan |
| Gaetan, Fabritius | CLS | France |
| Gils, Jeffrey | Rijkswaterstaat SVC | Netherlands |
| Hill, Stephen | AMS | Australia |
| Jensen, Jens Kristian | DAMSA | Denmark |
| Martin, David | exactEarth | Canada |
| Oon, Guan | CLS | Australia |
| Pokorny, Peter | AMSA | Australia |
| Tetrault, Brian | US Army Corps of Engineers | USA |
| Tremlett, Robert | exactEarth | Belgium |
| Von Brandenstein, Alex | AMSA | Australia |
| Yauchi, Takamasa | Oki Consulting Solutions | Japan |
| Zetterberg, Rolf chair AIS TWG | SMA | Sweden |
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**Appologies**

|  |  |  |
| --- | --- | --- |
| **Name** | **Organization** | **Country** |
| Wootton, Richard | MCA | UK |
| Williams, Alwyn | MCA | UK |
| Schultz, Johnny | L3 Communications | USA |
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**Annex B.**

**Input Documents**

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| **INPUT DOCUMENTS** | **Title** |
| 01 | Invitation – Meeting Information |
| 02 | Preliminary agenda |
| 03 | List of Documents |
| 04 | Proposed prioritization A124 Ed 2 |
| 05 | Request for Clarification on Channel management |
| 06 | Innovative use of AIS - AIS TRACKING BYOU |
| 07 | Draft Guideline AIS overview - comment from C50 |
| 08 | Liaison from EEP - AtoN monitoring by AIS |
| 09 | Comments on AIS Overview |
| 10 | IMO liaison to ITU regarding ASM |
| 11 | Japan comment to ITU regarding ASM |
| 12 | ITU liaison to IMO regarding ASM |
| 13 | IALA liaison to ITU regarding clarifications to 1371-4 |
| 14 | ITU liaison to IALA regarding revision of 1371-4 |
| 15 | 2011-01-04 MDC IMO\_IALA\_AIS AtoN v4 |
| 16 | IALA Recommendation O 143 |
| 17 | NAV 56-INF-2 |
| 18 | NAV 56-11-1 |
| 19 | NAV 56-11-2 |
| 20 | NAV 56-11-3 |
| 21 | NAV 56-11 |
| 22 | RTCM Paper 004-2011-SC110-680 |
| 23 | AIS against Vessel Collision |
| 24 | Liaison note to IALA AIS TWG from IEC TC 80 WG 15 |
| 25 | Draft Annex 17 of A124 |
| 26 | Draft Technical Clarifications of IMO SN.1 Circ 289 |
| 27 | Issues with AIS in Australia |
| 28 | MP comment on Input 26 – Clarification on SN 289 |
| 29 | Draft Annex 5 of A124 JFC |
| 30 | Class B CS - UTC direct sync question |

**Output documents**

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| **Output Document** | **Title** |
| 01 | Report of the meeting |
| 02 | IALA Guideline On an Overview of AIS |
| 03 | Liaison note to EEP |
| 04 |  |

**Working Documents** (for next TWG meeting)

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| **Working Document** | **Title** |
| 01 | Draft Recommendation A126 rev3 2011-02-11 |
| 02 | Draft input to NAV57 re AIS AtoN |
| 03 | Outline Harmonised implementation of ASM |
| 04 | Draft A124 Annex 3 AIS Service Distribution Model |
| 05 | Draft A124 Annex 4 Interaction + data Flow model AIS service |
| 06 | Draft A124 Annex 5 AIS Service Interfacing Model |
| 07 | Draft A124 Annex 14 FATDMA planning |
| 08 | Draft A124 Annex 17 Channel management of an AIS service |
| 09 | Draft A124 Main Document |
| 10 | Proposed prioritization of work on A124 |
| 11 | Proposed New Channel Management algoritm |
| 12 | Draft revision of Rec. ITU-R M.1371-4 11-02-2011 |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |