

Please comment by 4 May

**Report of the 18th Session of the IALA EEP Committee**

**16 to 20 April 2012**

***Executive Summary***

* 58 members, a record number, from 26 countries attended this meeting of the EEP Committee; 7 members attended for the first time;
* The Committee considered 79 input papers;
* The Committee produced 24 output documents, comprising:
  + a draft Guideline on Bird Deterrents;
  + a revised Recommendation E-110, for the Rythmic Characters of Lights on Aids to Navigation;
  + IALA Model Course Mercury Rotating Optics - Technician Level 2;
  + Draft revised E-141 on Standards for Training and Certification of AtoN Personnel;
  + IALA WWA Courses Technician Level 2 Overview;
  + 15 Liaison Notes to the ANM Committee;
  + 2 Liaison Notes to the e-NAV Committee.
* The Committee coped with the unexpected input requesting advice on audible signals and off-station signals for major floating aids
* A minor change has been proposed to the Work Programme, at Annex G;
* Changes to the detailed Work Programme are proposed at Annex H;
* A pre-visit to Athens, for the Heritage seminar, is planned for September 2012;
* No other face-to-face inter-sessional meetings are planned.

Table of Contents

Table of Contents 2

1 General 5

1.1 Administrative Announcements 5

1.2 Approval of the Agenda 6

2 Review of action items from EEP17 6

3 Review of input papers 6

4 Reports from other bodies 6

4.1 IALA Council 52nd Session (December 2011) report 6

4.2 PAP22 (October 2011) report 7

4.3 Report on IMO COMSAR16 (March 2012) 7

5 Reports from Rapporteurs 7

5.1 Developments in Aids to Navigation (M1\*) 7

5.2 Developments in Renewable Energy Sources (M2\*) 7

5.3 Developments in Battery Technology (M3\*) 7

5.4 Developments in New Light Sources (M4\*) 7

5.5 IALA Certification Process (M5\*) (Discontinued after C52) 7

5.6 CIE-IALA Liaison (M6\*) 7

6 Presentations 8

6.1 IALA World-Wide Academy – Jean-Charles Leclair 8

6.2 Installation of AIS AtoN in the Antarctic area - Mariano Luis Marpegan 8

6.3 Installation Practices of Plastic Buoys in Korea - Jeon Jin-Gee 8

6.4 Electrical bird deterrence - Jørgen Royal Petersen 8

6.5 AIS & VDE in e-Navigation - Mike Card 9

6.6 Greek Lighthouses and Heritage Seminar 2013 - Panos Chiotis 9

6.7 Kystverket’s New AtoN – Leif Arne Larsen 9

6.8 Fixed and Floating Aid Workshop - Michel Cousquer 10

6.9 Ómar on AIS – Ómar Frits Eriksson 10

7 Establish Working Groups 10

8 Working Group 1 – AtoN InfrastRuctUre Design & Maintenance 11

8.1 AtoN Engineering (Task 2) 11

8.1.1 Lightning Protection (Activity 2.1.2) 11

8.1.2 Operational aspects of installing AIS AtoN on buoys and beacons (Activity 2.1.3) 11

8.1.3 Effect of e-Navigation on conventional AtoN (Activity 13.2.1) 11

8.1.4 Plastic buoys questionnaire (Activity 2.1.1) 12

8.1.5 Protection of AtoN from bird fouling (Activity 2.4.1) 12

8.1.6 Buoy Design (Activity 2.1.4) 12

8.2 The use of Audible Signals as aids to navigation (*in conjunction with ANM*) (Activity 15.1.2) 12

8.3 Risk Assessment Techniques in AtoN Design and Maintenance (Activity 11.1.1) 13

8.4 Polar Engineering (Activity 14.1.1) 13

8.5 Input to Brest Workshop 13

8.6 Liaison Note on Off Station Signals 14

8.7 AtoN Metadata Product Specification 14

8.8 Develop new Guideline and XML schema for AtoN product data exchange (Activity 13.4.1) 14

9 Working Group 2 – Heritage, Conservation & Civil Engineering 14

Heritage and Conservation (Task 9\*) 14

9.1.9 Review and update NAVGUIDE Section 8.11 (Activity 12.4.1) 19

10 Working Group 3 – Environment, Quality Assurance, TRAINiNG & Publications 21

10.1 Knowledge Sharing / Knowledge Management, taking into account open source software (Task 1\*) 21

10.1.1 Develop procedures for informal sharing of information between members (Activity 1.1.1) 21

10.1.2 Develop and populate the IALAWIKI with information on Aids to Navigation (AtoN) not included in official IALA documents (Activity 1.2.1) 21

10.2 Environment and Safety (Task 6\*) 22

10.2.1 Develop new Guideline on methods for determining and reducing carbon footprint of AtoN services (Activity 6.1.1) 22

10.2.2 Revise NAVGUIDE content for guidance on safe handling and management of mercury (Activity 6.1.2) 22

10.2.3 Develop new Guideline on treating legionella and coli bacteria in water supplies of destaffed stations (Activity 6.1.3) 22

10.2.4 Develop new Guideline on safety management for AtoN activities (Activity 6.1.4) 23

10.2.5 Revise Guideline 1036 IALA Green Guide (Activity 6.3.1) 23

10.3 Aids to Navigation Training, IALA WWA (Task 7\*) 24

10.3.1 Develop new Model Course for the accreditation of level 1 AtoN training (Activity 7.1.1) 24

10.3.2 Develop Model Course for level 2 technician training (Activity 7.1.2) 25

10.4 Product Procurement ~~Certification~~ (Task 8\*) 26

10.4.1 Maintain and develop product templates (Activity 8.2.1) 26

10.4.2 Develop IALA product guide database schema (Activity 8.3.1) 27

10.4.3 Develop new Guideline and XML schema for AtoN product data exchange (Activity 8.3.2) 27

10.5 Quality Management (Task 12\*) 27

10.5.1 Contribute to the review of Recommendation O-132 on quality management for aids to navigation authorities (Activity 12.1.1) 27

10.5.2 Review Guideline 1052 on quality management in aids to navigation service delivery (Activity 12.1.2) 27

10.5.3 Review NAVGUIDE (Activity 12.1.3) 28

10.5.4 Develop a Guideline on Key Performance Indicators (Activity 12.2.1) 28

11 Working Group 4 – Light & Vision 29

11.1 Engineering – Visual Aids (Task 2\*) 29

11.1.1 Update IALA Recommendation E-110 with respect to the characteristics of the EWMB. 29

11.2 Visual perception of lights and daymarks (Task 3\*) 29

11.2.1 Advice to ANM on the use of simulation in the design of AtoN systems. 29

11.2.2 Review present and developing IALA documents related to visual signalling and gather into a suite of documents similar to the E200 concept. 29

11.2.3 Consider providing guidance on focal plane height of AtoN. 30

11.2.4 Revise Guideline 1041 on Sector Lights to include Input Paper EEP18/11/14 on this subject. 30

11.2.5 Develop new Guideline on Design of Daymarks: (Input Papers EEP18/11/3 and EEP18/11/8). 30

11.2.6 Revise Recommendation E108 on Surface Colours to include measurement of surface colours. 30

11.2.7 Update Guideline 1061 on Light Applications - Illumination of Structures to include information on the use of colour floodlighting of lighthouses. 31

11.3 Quality Management (Task 12\*) 31

11.3.1 Update relevant sections of NAVGUIDE Review and update NAVGUIDE Sections 3.1, 3.2, 31

11.4 e-Navigation across Committees (Task 13\*) 31

11.4.1 Develop the concept of visible light for data communications. 31

11.5 Simulation in the design of AtoN 31

12 Future Work Programme 31

13 Review of output and working papers 32

14 Any Other Business 32

14.1 Video request 32

14.2 IALA Bulletin 32

14.3 IALA Wiki 32

14.4 IALA LinkedIn 32

15 Date and venue of next meeting 32

16 Review of session report 32

17 Closing of the Meeting 33

18 List of Annexes 33

ANNEX A Agenda 34

ANNEX B List of Participants 36

ANNEX C Working Group Participants 48

ANNEX D List of Input Papers 52

ANNEX E List of Output and Working Papers 58

ANNEX F Action Items 61

ANNEX G Work Programme 67

ANNEX H Detailed EEP Work Programme 2010-1014 69

ANNEX I Developments in Lighthouse Conservation 86

****

|  |  |
| --- | --- |
| **EEP Committee**  18th Session | 20 April 2012 |

**Report of the 18th Session of the IALA EEP Committee**

# General

The 18th meeting of the Engineering, Environment and Preservation of Historic Lighthouses (EEP) Committee was held from 16 to 20 October 2012 at IALA. The Chairman was Ómar Frits Eriksson, the Vice Chairman was David Jeffkins and the Secretary for the meeting was Mike Hadley.

The Chairman welcomed all participants to the Committee meeting, especially those attending for the time. He noted that the attendance had set a Committee record and that there was a busy week ahead.

Having introduced himself and explained his recent absences from Committee meetings he said that Seamus Doyle had retired since the previous meeting and introduced David Jeffkins as the temporary Vice Chairman, stating that he intended seek approval form the next Council meeting (June 2012) to have this change confirmed.

Action item

The Secretary-General is requested to seek confirmation from the Council of David Jeffkins as the Vice Chairman of the EEP Committee

Ómar Frits Eriksson said that Seamus Doyle needed to be thanked for all his contributions to the Committee over many years, not least when standing in as Chairman. He then read out a an e-mail from Seamus Doyle.

*Very best wishes to all my friends at EEP. I am sorry I cannot be with you this week and wish you a happy and productive session. Please convey my thanks to all the Committee and IALA for your friendship and support over the years. I have many treasured memories of our time together.*

Continuing thanks for recently retired members, the Chairman then said that he had received a letter of resignation from Ove Ibsen and that his contribution to the Committees activities, again over many years, needed to be acknowledged.

Ómar Frits Eriksson then presented the Secretary-General’s apologies for not being at the opening of the meeting but noted that he would be back at IALA during the latter half of the meeting.

He then requested that individual committee members introduce themselves before, briefly, running through the plan for the week and the social programme.

## Administrative Announcements

Mike Hadley gave details on health and safety and administrative matters.

The Chairman thanked the Secretary for the information provided.

The Chairman then listed those that had sent their apologies for not attending. They were:

|  |  |  |
| --- | --- | --- |
| **Name** | **Organisation** | **Country** |
| Wayne Danzik | USCG | USA |
| Seamus Doyle | CIL | Ireland |
| Ove Ibsen | Oi Electronic | Denmark |
| Eoghane Lehane | CIL | Ireland |
| Vincent Roget | CETMEF | France |

## Approval of the Agenda

The agenda, at EEP18/1/1 rev6 was approved.

# Review of action items from EEP17

Input paper EEP18/2/1 refers. Action items for the IALA Secretariat from EEP17 were reviewed and noted as complete, with the following exceptions or comments:

**Action 9** *The Secretariat is requested to prepare a draft Heritage web page on the main IALA website for review at EEP18*.

**Action 10:** *The Secretariat is requested to consider a method of incorporating the Historic Lighthouse Database into the Heritage webpage.*

These two, linked actions (9 & 10) are proceeding very slowly, in part due to the redevelopment of the IALA website. Bob McIntosh and Gwénola Josse are progressing the work and will continue to do so during the meeting.

The Secretary reported that there had been some discussion at the Chairman’s pre-meeting about using a Wiki format within the IALA Wiki area, which would have the twin advantages of being under the control of the Chairman of WG2 and simpler for the WG to maintain.

The Chairman thanked the Secretariat and requested that all Action Items attributed to Committee members be dealt with in the Working Groups.

# Review of input papers

EEP18/3/1 rev6 refers.

The Chairman reviewed the list of input papers, allowing those authors who wished to introduce their papers. It was then confirmed which Working Group (WG) would be dealing with the individual papers.

# Reports from other bodies

Input papers EEP18/4/1 to EEP18/4/3 refer.

## IALA Council 52nd Session (December 2011) report

EEP18/4/1 refers.

The meeting noted that:

* in future only a concise report will be produced;
* the Strategy Groups concern about priority tasks;
* the request to provide items for the 2014 – 2018 Work Programme;
* the Council had expressed its view about concentrating on the technical aspects with regard to polar routes;
* the documents submitted by EEP had been approved
* the changes proposed to the Committee’s Work Programme has been approved;
* actions 7, 11, 19 & 22 were relevant to the Committee.

## PAP22 (October 2011) report

EEP18/4/2 refers.

The Committee noted that:

* the Historic lighthouse template has yet to be finalised’;
* there is increasing international recognition of the IALA Risk seminars;
* momentum on the IALA Dictionary is increasing, following revision of the IALA website;
* application for IALA to become an S-100 submitting organisation and then a domain holder was endorsed;
* significant advances have been made in the development of the IWRAP Mk2 software.

## Report on IMO COMSAR16 (March 2012)

EEP18/4/3 refers.

Jean Charles Leclair, the IALA representative at IMO, introduced the report and gave a general overview of proceedings. It was noted that there was nothing of specific significance for the Committee.

# Reports from Rapporteurs

## Developments in Aids to Navigation (M1\*)

Adrian Wilkins, having stated that he had no connection with the company, introduced the Harken power seat. He noted that it could be useful in providing access during the maintenance of lighthouses and beacons. Two lines are required; one for the chair to ‘climb’ on and the second as a safety line. The chair is powered by a small internal combustion engine; an electric motor version is also available. More details, including a short video, are available via [www.power-seat.com](http://www.power-seat.com).

## Developments in Renewable Energy Sources (M2\*)

There was nothing to report.

## Developments in Battery Technology (M3\*)

There was nothing to report.

## Developments in New Light Sources (M4\*)

EEP18/5/4 refers.

Malcolm Nicholson used his paper to brief the Committee.

## IALA Certification Process (M5\*) (Discontinued after C52)

## CIE-IALA Liaison (M6\*)

EEP18/5/6 refers.

Malcolm Nicholson highlighted the main points of his report.

The Chairman thanked Malcolm Nicholson for his two reports and also for the considerable amount of inter-sessional work that he had undertaken.

# Presentations

Nine presentations were made, five during the opening plenary session. The associated PowerPoint files and one associated document file have been made available on the IALA ftp site.

## IALA World-Wide Academy – Jean-Charles Leclair

Jean-Charles Leclair gave a short presentation about the current status and future intentions for the WWA. He stressed the Academy’s financial independence and how it is integral with IALA, with training and capacity building going ‘hand in hand’. It was said that the WWA intends to follow the IHO’s model for capacity building but is expecting to establish 7 regions, each with a lead state. It will be guided by the 4As: Awareness, Assessment, Analysis & Actions.

It is intended that a brief will be given to each Committee meeting.

Current progress and future intentions for model courses were covered and it was stated that the WWA will have its own website embedded with the IALA website. From its website WWA model courses will be downloadable and the Academy will be taking over responsibility for some existing training oriented Recommendations and Guidelines, as approved by Committees and formally endorsed by the Council.

The model course process and flow was shown*.*

It was noted that a start has been made on a Radionavigation model course. Jean-Charles Leclair confirmed that the WWA would be looking to the Committees to provide the substance of each model course, which the relevant Committee would approve.

It was stressed that the WWA Board has its own, delegated responsibility but will work under the direction of the IALA Council, with briefings being given to each meeting of the Council. In all cases, the aim is for the WWA’s activities to be transparent.

It was also stressed that the WWA will seek to work with IALA’s Industrial members and has no wish to compete or be in conflict with them.

## Installation of AIS AtoN in the Antarctic area - Mariano Luis Marpegan

Mariano Luis Marpegan provided an update to his presentation at EEP17.

In response to a query about power supplies, it was said that these are not yet autonomous; power is supplied from the base. At the next stage of the project power supplies are expected to be provided either by battery or solar panels.

## Installation Practices of Plastic Buoys in Korea - Jeon Jin-Gee

The presentation featured the 18km long Gyeongin-Ara waterway, which was built between 2009 – 2011. The traffic signals for the two sets of floodgates were shown and it was said that the water level difference between sea and the channel can be 8m. The waterway utilises steel buoys with chain moorings in conjunction with sector lights and for its inner portion plastic (polyethylene) buoys with elastic moorings in 15m of water. The presentation also covered plastic buoy construction, installation and colour variation.

In response to a question it was stated that vessels of length 233m and width 44m are using the 80m wide channel.

## Electrical bird deterrence - Jørgen Royal Petersen

Jørgen Royal Petersen said that the problem caused by deposits of birdlime were increasing because the population of cormorants is increasing. The problems this caused were then listed and examples illustrated, noting that it was most acute with off-shore lighthouses. The various countermeasures used in the recent past were described and illustrated but the conclusion about their use was that they were ineffective.

As the birds are largely protected, by law, a new approach is being taken with what was referred to as an electric fence. The methods of minimising perching positions were described and then the mesh ‘fence’ was described. Its use was illustrated with two case studies, in which the easily available ‘fence’ charger and power supplies (one battery and the other solar panel for daytime use). The results after 18 month’s trial are considered impressive with ‘cormorant free lighthouses’.

It was confirmed that, in the Baltic, the population of cormorants is increasing, whatever may be the experience elsewhere in the world. It was said that stainless steel wire is being used because synthetic wire is harder to make taut.

It was remarked that the Estonian authorities are tackling the issue at source by treating cormorant eggs.

It having been observed that the test sites were using vertical solar panels, it was explained that in Baltic latitudes this is the best configuration and it allows for some sunlight, reflected by the water, to be captured.

## AIS & VDE in e-Navigation - Mike Card

Mike Card gave his presentation at during the second plenary. The presentation consisted of an overview of the challenges facing spectrum allocation to AIS and how steps are being taken to ensure that there will be sufficient channels in the future. The application for additional frequencies was partly met at the 2012 World Radio Conference (WRC) and it is anticipated that additional experimental channels made available at WRC2012 will be formally approved at WRC2015.

It was explained that the informal use of the term ‘next generation AIS’ had been the cause of some concern, outside the AIS / Communications community and that the way forward is not being called VHF Data Exchange (VDE).

It was emphasised that the process of achieving what is believed to be required will rake the form of a migration, lasting a number of years.

Further, more detailed information can be found in EEP18/8/13 (e-NAV11/output/2).

In response to a question it was stated that the transition arrangements were only just beginning to be thought about. In response to a question about whether AIS Class B receivers would be removed from existing AIS channels it was said that no thought has, so far been given to such a move. However, this prompted the comment that the reduction in cost of Class A receivers now made such receivers little more expensive than an AIS class B receiver.

## Greek Lighthouses and Heritage Seminar 2013 - Panos Chiotis

Panos Chiotis provided an historical review of the Greek Lighthouse Service, showing the disposition of major lights and the blocks in which various bodies had influenced the architecture used, some of which went back to the early 1800s, with the first List of `lights being published in 1897. He then showed the major lights in some detail, illustrating a range of states of preservation.

Following this part of the presentation Panos Chiotis then gave an overview of the current plans for the heritage seminar that will be held in Athens between 3 and 7 June 2013.

## Kystverket’s New AtoN – Leif Arne Larsen

Leif Arne Larsen gave his presentation at during the second plenary. It showed the extent of the task of providing AtoN coverage and covered two significant incidents involving high-speed craft that had led to an evaluation of how the provision of AtoN needed to change. At the same time cost and maintenance were factored in and a project was set up to achieve these and other objectives. Various AtoN resulting from the research were shown, including a beacon intended to be maintenance free for 10 years.

It was not known which type of battery is being used but Leif Arne Larsen undertook to inform the Committee.

Action item

Leif Arne Larsen is requested to advise the Committee of the type of battery beig used in its AtoN project at EEP19.

## Fixed and Floating Aid Workshop - Michel Cousquer

Michel Cousquer presented, via an interactive presentation, the practical aspects of the forthcoming Fixed and Floating Aids workshop in Brest, which is being incorporated in the larger SeaTechWeek, where about 1000 delegates are expected to attend. The overall size of the exhibition will be 60 booths, of which 12 are currently allocated to IALA Industrial members.

Committee members who hadn’t already done so were invited to take a brochure for the workshop and 17 people indicated that they would be interested in visiting the Ushant lighthouse on Saturday 13 October. This event will need to be charged for separately.

The Committee was advised that there is both a French and English hotel booking service but that the number of rooms available to IALA would halve (from 120 to 60) by the end of August. Those wishing to attend, were, therefore, advised to book early.

The Committee was further advised that there are now 4 social events linked to the SeaTechWeek programme.

The Chairman then thanked the presenters.

## Ómar on AIS – Ómar Frits Eriksson

Ómar Frits Eriksson made his presentation just before the close of the meeting. He began with an overview of the current Danish programme, which includes both terrestrial and space based AIS. He then turned to IALA Net, asking those national members who had not yet joined to give serious thought to joining. Using data made available to Denmark on a temporary basis by exactEarth it was stated that 50,000vessels (approximately half of the world’s SOLAS fleet) had been seen in 24 hours. It was explained that some apparently sparsely covered areas were due to the high density of ships causing slot collision and this degraded performance.

It was stated that Denmark is working towards launching its own satellite and the anticipated coverage was shown, together with the benefits of combining terrestrial and space based coverage.

# Establish Working Groups

The Chairman proposed that four Working Groups (WG) be established, as outlined below:

|  |  |
| --- | --- |
| Working Group | Working Group Chair |
| WG1 AtoN infrastructure design and maintenance | Adrian Wilkins |
| WG2 Heritage, conservation and civil engineering | Bob McIntosh |
| WG3 Environment, quality assurance, training and publications | David Jeffkins |
| WG4 Light and vision | Mike Card |

It was agreed that WGs 1 and 2 would meet on Tuesday, WGs 3 & 4 on Wednesday and that the first two sessions on Thursday would be available to all WG to finalise their work.

The Chairman then wished everyone a productive meeting and looked forward to the output it would produce.

# Working Group 1 – AtoN InfrastRuctUre Design & Maintenance

Working Group 1 was asked to respond to input papers EEP18/8/1, EEP18/8/2, EEP18/8/3, EEP18/8/4, EEP18/8/5, EEP18/8/6, EEP18/8/7, EEP18/8/8, EEP18/8/11, EEP18/8/12, EEP18/8/13, EEP18/8/14, EEP18/8/15, EEP18/8/16, EEP18/8/17, EEP18/8/18, EEP18/8/19, EEP18/8/20, EEP18/11/4, EEP18/11/5, EEP18/11/6, and EEP18/11/10.

## ****AtoN Engineering**** (Task 2)

### Lightning Protection (Activity 2.1.2)

EEP17/8/24, the draft revised guideline was further reviewed inter-sessionally, with particular focus on similarities with the IEC Standards for Protection Against Lightning.

WG members responsible for the inter-sessional review advised that the contents of the IEC standards aligned very closely to the draft guideline and that no major modifications were required to further development of that document. The IEC standard was further reviewed and made some minor inclusions to the draft guideline (EEP18/WG1/WP1) and requested inter-sessional review by the EEP committee members.

Action Item

EEP Committee members are requested to review the draft guideline on lightning protection (EEP18/WG1/WP1) and pass comment to Peter Dobson before EEP19.

The Secretariat is requested to forward EEP18/WG1/WP1 to EEP19.

### Operational aspects of installing AIS AtoN on buoys and beacons (Activity 2.1.3)

Late input paper EEP18/8/5 refers.

The draft guideline was reviewed and the document further developed. It was agreed that this important document (EEP18/WG1/WP2) needed further inter-sessional review, before inclusion as an input to the Brest workshop and EEP19.

Action Item

WG1 members are requested to continue to review the draft guideline inter-sessionally, providing input to Simon Millyard by 31 August 2012, with a view to reviewing the final content at the Brest workshop.

Simon Millyard is requested to provide an updated version of EEP18/WG1/WP2 for the Brest workshop, via the Secretariat.

### Effect of e-Navigation on conventional AtoN (Activity 13.2.1)

From EEP17 it had been proposed that further inter-sessional review was required of EEP16/8/3 (e-Navigation Committee paper e-Nav9/output/20) to identify engineering information for inclusion into IALA Recommendation A-126.

Inter-sessional review did not identify any additional engineering input and no input papers were received on this item. A draft liaison note to e-NAV was drafted (EEP18/output/2), requesting more definitive information on the areas of e-Navigation that EEP can contribute to, in order to better focus future work.

Action item

The Secretariat is requested to forward the liaison note on the Effect of e-Navigation on conventional AtoN (EEP18/output/2) to e-NAV12.

### Plastic buoys questionnaire (Activity 2.1.1)

The replies to the plastic buoy questionnaire, input papers EEP18/8/1, EEP18/8/11, EEP18/8/15 and EEP18/8/16 were noted, observing the continued useful number of replies being received, covering 12 countries and a total of 40,193 buoys currently in service worldwide.

Tabulation of the questionnaire results was continued (EEP18/WG1/WP3), in order to gather information for use at the Brest workshop.

Action Item

EEP Committee Members who have not yet responded to the questionnaire are requested to complete the revised questionnaire, Plastic Buoy Questionnaire (EEP17/output/2) and forward it to Sipke Hoekstra by 31 August 2012.

Sipke Hoekstra is requested to provide an updated version of the Plastic Buoy Questionnaire Summary (EEP18/WG1/WP3) for the Brest workshop, via the Secretariat.

### Protection of AtoN from bird fouling (Activity 2.4.1)

Input paper EEP18/8/3 and the presentation by Jørgen Royal Petersen were noted.

The Draft Guideline on Bird Deterrents had been considered finalised at EEP17, however, due to the comprehensive information provided by the Jørgen Royal Petersen, it was decided that the draft guideline required some additional review, in order to incorporate some of the new information available.

The details of the presentation were reviewed and relevant elements incorporated into the draft guideline (EEP18/output/3), which is now considered finalised.

Action Item

The Secretariat is requested to forward the draft Guideline on Bird Deterrents (EEP18/output/3) to the IALA Council for approval.

### Buoy Design (Activity 2.1.4)

Inter-sessional input to the developing draft guideline was incorporated (EEP18/WG1/WP4). Further work will be required inter-sessionally, due to difficulties in resolving some software incompatibilities. It is anticipated that the revised document will form an important part of the Brest workshop and will be available by 1 September 2012, for the information of participants at the Brest Workshop.

Action item

Phillipe Renaudin, Jorge Unterderweide, Sipke Hoekstra & Adrian Wilkins are requested to complete necessary revisions to EEP18/WG1/WP4 by 31 August 2012.

EEP Committee members are requested to review EEP18/WG1/WP4 and comment to Adrian Wilkins by 31 August 2012.

Adrian Wilkins is requested to forward a revised version of EEP18/WG1/WP4 to the Brest Workshop, via the Secretariat.

## The use of Audible Signals as aids to navigation (*in conjunction with ANM*) (Activity 15.1.2)

In response to the inter-sessional liaison note and draft guideline from the ANM Committee on audible signals, the draft guideline was reviewed and some suggested amendments highlighted. A liaison note was drafted (EEP18/output/4) to encapsulate the comments made.

It was noted that the suggested amendments would result in a change to the relevant content of the NAVGUIDE.

Action Item

The Secretariat is requested to forward liaison note on the use of audible signals (EEP18/output/4) to ANM18.

## ****Risk Assessment Techniques in AtoN Design and Maintenance (Activity 11.1.1)****

Paper EEP18/8/20, provided by Aivar Usk, was noted. The document provided a detailed synopsis of the US Military Standard document (EEP18/8/21). It was noted that whilst the document provided a comprehensive guide to risk assessment processes, it was not a document that is practically applicable to normal AtoN operations.

After review of the synopsis and group discussions of the possible applications of a Guideline for this topic, it was agreed that further inter-sessional work would be carried out, including putting together a broad outline of the information required for such a Guideline, before making a decision whether to proceed.

Action item

Simon Millyard is requested to provide an **outline** document on **Risk Assessment Techniques in AtoN Design and Maintenance for EEP19**.

## ****Polar Engineering**** (Activity 14.1.1)

As an action item from EEP17, further input and reference material had been requested. No additional information or input has been received and the conclusion remains that there is not enough input to be able to put together authoritative guidance for polar engineering.

Recognizing the depth of experience amongst EEP Committee, members are again requested to provide inter-sessional input for EEP19.

Action Items

EEP Committee members are requested to provide input or reference material on polar engineering for review at EEP19.

## Input to Brest Workshop

Papers EEP17/output/2 – Use of Plastic Buoys, EEP18/WG1/WP4 – Buoy Design Hydrostatics and EEP18/WG1/WP2 – AIS on Buoys’, or inter-sessionally revised versions, will be reviewed at the Brest Workshop in October 2012.

It is considered that the AIS on Buoys document (EEP18/WG1/WP2) will be a major topic at the Workshop and may attract participation from the e-NAV Committee.

It is proposed that the input papers for the workshop should be formatted in such a way as to invite interest and promote feedback from the Brest Workshop participants.

Action item

The Secretariat is requested to forward EEP17/output/2 – Use of Plastic Buoys to the Brest Workshop.

The Secretariat is requested to forward EEP18/WG1/WP4 – Buoy Design Hydrostatics to the Brest Workshop.

The Secretariat is requested to forward EEP18/WG1/WP2 – AIS on Buoys to the Brest Workshop.

## Liaison Note on Off Station Signals

EEP18/11/9 refers.

In response to the liaison note from ANM, the issue was discussed and a liaison note to ANM was prepared (EEP18/output/5), together with a track changes version of revised Recommendation O-104 (EEP18/output/6).

Action Items

The Secretariat is requested to forward the liaison note on Off Station Signals (EEP18/output/5) to ANM18.

The Secretariat is requested to forward the track changes version of revised Recommendation O-104 (EEP18/output/6) to ANM18.

## AtoN Metadata Product Specification

EEP18/8/12, EEP18/8/14 and EEP18/8/17 refer.

The liaison note from e-NAV and the related document were reviewed. Comments and suggestions were incorporated into the document (EEP18/output/23) for passing to ANM18.

Action Item

The Secretariat is requested to forward the Liaison Note on AtoN Metadata Product Specification (EEP18/output/23) to ANM18.

## Develop new Guideline and XML schema for AtoN product data exchange (Activity 13.4.1)

EEP18/11/4 refers.

This item has been moved from WG3 to WG1. The input paper was developed within the WG and further refined by the Committee Chairman (EEP18/output /22).

It is anticipated that the XML schema will eventually supersede the product templates.

Action item

The secretariat is requested to forward new Guideline and XML schema for AtoN product data exchange (EEP18/output /22) to Council for approval.

Subject to approval of EEP18/output /22, Aivar Usk undertook to provide a document type definition (DTD) for Annex B to EEP18/output /22 and provide it as an input document for EEP19.

# Working Group 2 – Heritage, Conservation & Civil Engineering

Working Group 2 was asked to respond to input papers EEP18/9/1, EEP18/9/2, EEP18/9/3, EEP18/9/4, EEP18/9/5, EEP18/9/6, EEP18/9/7, EEP18/9/8, EEP18/9/9 & EEP18/9/10.

The Chairman welcomed all attendees to the working group and in particular to any new members of the working group. This was one of the largest attendances of the working group with 16 participants at times during the day.

## Heritage and Conservation (Task 9\*)

* + 1. Maintain the IALA Lighthouse Conservation Manual (Activity 9.1.1)

A short discussion took place on the future of the Conservation Manual. There are on-going concerns on the difficulties of producing a Historic Lighthouse Conservation page on the IALA Website which it had been hoped would be a suitable means of drawing together the original manual and the more recently published guidelines. The previous version was published as part of the Shanghai conference but a lot of work would be required to produce a second version. It was suggested that a workshop could be arranged with the purpose of reviewing the existing manual and updating the new guidelines to the same style as the chapters of the manual. Alternatively it was suggested that a manual could be produced only in electronic format. Members of the working group were asked to review the content of the manual and the guidelines published since the original publication in 2006 and to consider the possible alternatives for the production of a revised manual.

Action item

WG2 members are requested to consider how the existing IALA Lighthouse Conservation Manual should be amended to take account of recent Guidelines and the new work of the group.

* + 1. Produce a new guideline on the selection and display of historic artefacts (Activity 9.2.1)

IALA Guideline No. 1080 on the Selection and Display of Heritage Artefacts has now been published on the IALA website and is available for members to download. This item is now complete.

* + 1. Produce new guideline on transfer of redundant lighthouses (Activity 9.3.1)

After a general discussion within the group it was felt that the title of the guideline, which is transfer of redundant lighthouses, is only one part of the solution. It was agreed that the Guideline would be better titled Guideline on the Management of Surplus Lighthouse Property. Several members of the working group took the latest version of the draft guideline on the Transfer of Redundant Lighthouses and spent some time reorganising the headings and information already included in the document and a further draft (EEP18/WG2/WP1) has now been issued for further inter-sessional work to allow it to be finalised at EEP 19. Christian Lagerwall had requested additional comment and details of the disposal process in other countries as well as comments on the working paper. The working group members were requested to consider the revised document and provide comments to Christian Lagerwall. Members who have not yet provided details, should consider methods and examples of disposal within their organisation with good and bad solutions. Christian Lagerwall is requested to include the comments from the working group members and to forward the revised draft Guideline as input to EEP19.

Action Items

Christian Lagerwall is requested to incorporate agreed changes to the draft guideline on the Management of Surplus Lighthouse Property (EEP18/WG2/WP1) and to reissue it, inter-sessionally, to committee members for further comment.

Committee members are requested to respond to the revised draft Guideline on the Management of Surplus Lighthouse Property with details of methods and examples of disposal within their organisation to Christian Lagerwall by 31 August 2012.

Christian Lagerwall is requested to include comments from members and submit a revised draft Guideline on the Management of Surplus Lighthouse Property as an input paper to EEP19.

When available, the Secretariat is requested to forward the revised EEP18/WG2/WP1 to EEP19.

* + 1. Report on Case Studies (Activities 9.4.1 & 9.4.2)

Unfortunately no further progress has been achieved on the Case Study reports for group visits to the projects at Nakkehoved Lighthouse near Copenhagen and Cabo Mayor Lighthouse, Santander. Bob McIntosh was again requested to complete draft case study reports for these two visits and circulate to the working group and others who were included in the visits or the project for comment and additional information. Revised reports will then be submitted to EEP 19 for further comment and publishing on the IALA Website Heritage page.

Action Items

Bob McIntosh is requested to complete draft case study reports on Nakkehoved and Cabo Mayor Lighthouses and circulate these reports to WG2 members for comment.

WG2 members are requested to respond to the draft case study reports on Nakkehoved and Cabo Mayor Lighthouses to Bob McIntosh prior to EEP19.

Bob McIntosh is requested to include the comments from members and submit revised draft case study reports on Nakkehoved and Cabo Mayor Lighthouses to EEP19.

* + 1. Document History of Floating Aids to Navigation (Activities 9.5.1 & 9.5.2)

Adrian Wilkins has continued to develop his paper, the History of Floating Aids to Navigation, since the last meeting, with further information obtained from a variety of documents which his researches have uncovered. Committee Members are requested to provide Adrian Wilkins or Bob McIntosh with any information or further sources of information on the History of Floating Aids to Navigation before EEP 19 to allow him to improve the coverage of the information.

Adrian Wilkins and Bob McIntosh are currently investigating possible funding options for the document possibly through IALA and the industrial members. Consideration will also be given to the options for electronic publishing.

Adrian Wilkins is requested to include all additional information received in the document and submit as an input paper to EEP19. It is hoped to finalise the document by EEP 20 with any further additional information after this time retained for inclusion in a possible future revised version of the document.

Action Items

Committee Members are encouraged to read Adrian Wilkins papers on The History of Floating AtoN (EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4) and are requested to provide Adrian Wilkins or Bob McIntosh with any information or sources of information on the History of Floating Aids to Navigation before EEP19.

Adrian Wilkins is requested to include any additional information received in The History of Floating AtoN including combining EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4 and to submit it as an input paper to EEP19.

The Secretariat is requested to forward EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4 to EEP19.

* + 1. Re-Issue Questionnaire on Complementary Uses of Historic Lighthouses (Activity 9.6.1)

It had been agreed at the end of the previous session that although the results of the questionnaire on Complementary Uses of Historic Lighthouses were useful and provided some useful information, particularly in relation to projects in various countries, it was felt that the 25% response was insufficient to make too many specific conclusions as to the scope of complementary uses in place at members lighthouses. It was agreed that some questions should be included to determine the extent of distribution of the IALA Lighthouse Conservation Manual and of its use by members. In addition it was felt it would be very useful from a building maintenance perspective to determine what problems members encounter with the their historic lighthouse buildings as this might give an indication of areas where solutions may be sought or exchanged and may indicate that there is a small number of common problems or a large number of different problems. It may not be possible to include this at this stage as it may divert the focus of the questionnaire away from its original aim. During EEP16 discussions it was suggested that absolutely precise numbers were not required for historic lighthouses or other number as this may result in those responding to the questionnaire having to put in a lot of extra effort. What is important to us is the scale of the numbers rather than absolutely accurate responses.

No discussion took place on this subject at EEP18 but Jo van der Eynden has agreed to review the questionnaire and seek further comment from working group members.

Action Items

Jo van der Eynden is requested to review the questionnaire on Complementary Uses of Historic Lighthouses and seek further comment from WG2 members.

Jo van der Eynden is requested to submit a revised questionnaire on Complementary Uses of Historic Lighthouses to EEP19

* + 1. Promote an international network for historic lighthouses (Activity 9.6.2)

This is considered to be one of the most important work items within the heritage area of work, with the hope that the working group will be able to provide a platform for the exchange of information between IALA members, Heritage Groups and others responsible for the upkeep of historic lighthouses around the world. The holding of an International IALA Seminar which although principally held for the benefit of members does attract interest from outside bodies and many representatives from related organisations have been encouraged to participate and make presentations at our events in Kristiansand in 2000, Gothenburg in 2005 and Santander in 2009. Details of proposals for 2013 will be developed under work item 9.1.8.

After a discussion with Gwénola Josse at EEP17 on the Heritage web page she had agreed to take the information from EEP16/9/7 postings on Heritage at IALA Website and prepare a proposal for a Heritage Page on the website before EEP18. However it appears that this has not happened in this manner. It was expected that the IALA Heritage webpage would have encouraged the exchange of information on all matters relating to the Heritage of our Historic Lighthouses.

Bob McIntosh provided information on the IALA Database of Historic Lighthouses prior to EEP17 but it is unlikely that the IALA Secretariat will find time to include it as a database linked to our web page in the near future. This matter has been under consideration since 1998.

The editor of the IALA Bulletin requested that the WG Chairman produce an article for the bulletin on a regular basis and we have called it ‘The Lighthouse Preservation Corner’. Articles have been published on the 200th Anniversary of the lighting of the Bell Rock, Scotland and the Hercules Tower, Spain and on the Portopi Lighthouse Museum, Spain, lighthouses in New Zealand and the maintenance project at the Ons Island lighthouse. We wish to continue this success and ask that members of the working group will offer articles to allow ‘The Lighthouse Preservation Corner’ to be published on a regular basis.

Paul Ridgway has volunteered that he is prepared to write something on preserved lighthouse tenders and light vessels. If EEP Committee members have any information on their lighthouse tenders or light vessels he would be interested to include this in his articles. It has been suggested that may be developed in a similar way as Adrian Wilkins booklet on the History of Floating Aids to Navigation for future inclusion on our website page. Bob McIntosh has confirmed to Paul Ridgway that his proposal is supported by the heritage working group. This matter is on-going to EEP18

In addition Bob McIntosh will continue to circulate information relating to the Heritage and Conservation of Historic Lighthouses amongst those who have registered an interest and will include any new members or others who indicate that they wish to be updated on these matters.

Action Items

WG2 members are requested to consider topics for future articles to be included in the IALA Bulletin within ‘The Lighthouse Preservation Corner’ and to provide these to Bob McIntosh.

Bob McIntosh is requested to meet editorial deadlines to ensure that articles are available for each edition of the IALA Bulletin wherever possible by passing suitable articles to the editor for inclusion in ‘The Lighthouse Preservation Corner’.

Committee members are requested to submit any information they or their authorities have on preserved lighthouse tenders and light vessels to Bob McIntosh or Paul Ridgway.

Bob McIntosh is requested to continue to monitor the list of people who indicated an interest in Heritage and Conservation of Historic Lighthouses, to ensure that they are updated on developments.

When possible, the Secretariat is requested to investigate means of providing a Heritage web page on the main IALA website for review at EEP19.

The Secretariat is requested to consider a method of incorporating the Historic Lighthouse Database into the Heritage webpage and to submit this as an input paper to EEP19.

* + 1. Seminar on Maintaining Historic Lighthouses (Activity 16.2.1)

The working group continues to support the need to hold a seminar on Historic Lighthouse Conservation. An official offer to host the event in June 2013 has now been made by the Greek Lighthouse Service in Athens. The date is confirmed as 3 to 7 June 2013. The title of the seminar has been agreed as a Seminar on the Preservation of Lighthouse Heritage

Mr Chiotis Panos, of the Greek Lighthouse Service, attended the meeting as their representative on the Seminar Steering Committee. He made a presentation, available on the ftp site, of many of the Greek Stone Lighthouses and included some location maps and photographs of the proposed venues. At the working group he submitted a copy of notes (EEP18/WG2/WP5) of a meeting with Dr Papayianni, which provides details of such venues as the Laskaridis Foundation and the Nautical Museum in Athens. This also included a first draft of the proposed programme starting with an introduction on Monday evening, followed by 2 days of presentations, a technical tour on Thursday and a summary and conclusions on Friday morning. In response to Mr Chiotis Panos questions it was confirmed that all registration fees and invoices would be under IALA control and all presentation gathering and proceedings production would be carried out by IALA Secretariat.

It was agreed at EEP 17 that since it was now 15 years since IALA began its efforts to promote the different aspects of lighthouse heritage, that this seminar should be used to review the progress on the topics covered by the earlier workshop and seminars i.e. Preservation by Alternative Use, Maintenance of Historic Lighthouses and the Impact of Changes in Technology on Historic Lighthouses. Mr Chiotis Panos advised that the Greek lighthouse Service has ideas for of many presentations on projects relating to Greek Stone Lighthouses and it is now up to working group members to consider options for topics and speakers for the other parts of the seminar. It is important that this includes several speakers who can produce a summary of progress on the topics from the previous seminars such as Complementary Use, Maintenance Techniques and the Impact of Technological Change.

WG2 members were requested to consider topics for presentations at the seminar, to consider those who should be invited, are encouraged to attend and to submit their ideas to Bob McIntosh as soon as possible.

It was confirmed that the steering group consists of Christian Lagerwall, Jo van der Eynden and Bob McIntosh as members representing the working group, Mr Chiotis Panos and Professor Papayianni representing the Greek hosts, the IALA Secretary-General, Ómar Frits Eriksson and Mike Hadley as representative of the IALA Secretariat. It is proposed that there be a steering committee visit to the location in September 2012 for face to face meetings with the local organising committee and visits to the venues. Bob McIntosh is to monitor progress on the provision of speaker details and topics and initiate arrangements to allow a steering group visit to take place.

A lunchtime discussion, including Mike Hadley, started the preparation of the budget for the event and it was felt that the cost could be set at between €350 - €400 with coffees, one dinner and technical tour transport included and covering IALA Secretariat costs. It was felt there were sufficient catering facilities outwith the venues to cope with the lunch requirements of the attendees, at their cost. The notes of the meeting are at EEP18/WG2/WP5.

Action Items

The Secretariat is requested to forward EEP18/WG2/WP5 to EEP19.

WG2 members are requested to consider topics and speakers for presentations at the seminar, to consider those who should be invited and encouraged to attend, and to submit this to Bob McIntosh as soon as possible.

Bob McIntosh is requested to collate responses in relation to Seminar topics and speakers and to circulate this to Steering Committee members.

If a suitable time can be identified, Bob McIntosh is requested to arrange a date for the steering group to visit Athens in September.

Bob McIntosh and IALA Secretariat are requested to agree a draft budget and the brochure template and to send it to Chiotis Panos, Greek Lighthouse Service

Chiotis Panos is requested to complete the draft budget and contribute to the brochure template to return it to Bob McIntosh to allow the Seminar budget to be finalised.

### Review and update NAVGUIDE Section 8.11 (Activity 12.4.1)

Section 8.11 of the NAVGUIDE Preservation of Historic Aids to Navigation was reviewed by the working group and the text was updated to include some details of the 2009 Santander seminar, the 2010 Cape Town Conference and the proposed seminar in Athens, June 2013. In addition the details of publications have been updated to include more recent guidelines and the guideline numbers have been included to enable members to find them on the IALA Website. Originally it had been hoped to refer to the Heritage web page but it has been decided at this stage to omit this from the information. Information was provided to WG3 for inclusion in their liaison note to the ANM Committee (EEP18/output/14) for the updating of the 2010 NAVGUIDE.

* 1. **Civil Engineering and Structures (Task 10\*)**
     1. Produce guideline on anti-fouling techniques (marine growth) for floating aids, boat landings, etc. (Activity 10.1.1)

During EEP17 it was agreed that this item should be shared between WGs 1 & 2 with WG 2 taking the lead. The purpose of the Guideline is to provide guidance on methods of reducing or preventing fouling by marine growth of slipways, jetties, sea washed structures and floating aids. A series of questions were sent out after EEP 17 to committee members and other authorities to determine the extent of use of anti-fouling products. The results suggested that there was reasonably extensive use of anti-fouling on buoys but very little response was received in relation to slipways, jetties etc. The information has been compiled into a spreadsheet submitted as an input and with a small amount of amendment it has been possible to separate the information. This has been completed as EEP18/WG2/WP7, which will now be passed to WG1 for further work. In addition EEP18/9/10 development of an electro-chemical anti-fouling system for buoys in the Republic of Korea will also be transferred to WG1. The remainder of the information, EEP18/WG2/WP8 on Anti-fouling in relation to slipways, jetties etc., has been retained and it is proposed to publish this on the IALA Wiki site.

Action Items

WG1 are requested to take EEP18/WG2/WP7 Anti-fouling responses for Floating Aids for further work on the guideline on anti-fouling techniques (marine growth) for floating aids.

Bob McIntosh is requested to provide a revised version of EEP18/WG2/WP7 on Anti-fouling responses for Floating Aids for EEP19.

Bob McIntosh is requested to publish the remaining information EEP18/WG2/WP8 on Anti-fouling in relation to slipways, jetties etc. on the IALA Wiki site.

The Secretariat is requested to forward EEP18/9/10 to EEP19.

* + 1. Expand Guideline No. 1076 on Building maintenance and conditioning in low energy environments and guidance on low power ventilation systems and avoiding condensation (Activity 10.2.1)

Although no specific discussion took place on the current guideline, some of the discussions at EEP 17 were relevant for possible inclusion. These included the provision of a maintenance plan to conserve the buildings and taking account of the old methods, but also the benefits of new technology. There is a need however to ensure that using new techniques does not adversely impact on the existing structure such as the use of harder cement mortars in place of weaker, more porous lime mortars.

In order to expand this guideline EEP Committee members were requested to provide information on this type of problem in their authorities or to provide WG2 with a contact within their organisation who may be able to provide this type of information.

It was noted that Ron Blakeley of Trinity House is unfortunately no longer able to attend EEP, however it was suggested that the subject of this guideline would be an ideal topic for an update on progress on the subject of dampness in lighthouse buildings at the Athens seminar.

Nicolas Fady of CETMEF advised that CETMEF had translated the guideline into French and that he would consider presenting some information on the situation at French Lighthouses in relation to this topic.

Action Items

Committee members are requested to provide information on building maintenance and conditioning in low energy environments within their authorities or to provide contact details for an individual who may be able to provide this information to Bob McIntosh.

WG2 members are requested to consider options for developing this guideline when additional information becomes available.

Nicolas Fady is encouraged to consider submitting information on the CETMEF experiences of building maintenance and conditioning in the low power environment once this becomes available.

* + 1. Provide guidance on protection and repair of Aid to Navigation Structures in Natural Disaster Areas (Activity 10.3.1)

Bob McIntosh has updated the paper, ‘The effect of Natural Disasters on AtoN Structures’ (EEP18/9/6) with information received from New Zealand and some additional documentation not previously included from Japan.

No time was available to discuss this matter specifically but it will be considered under the on-going work on the preparation of the Heritage (and Civil Engineering) page of the IALA Website and for possible inclusion within the scope of the Heritage seminar.

Action item

Bob McIntosh is requested to continue to monitor the impact of Natural Disasters on Historic Lighthouses in particular and how the authorities have reacted to the problems.

* + 1. Revise Lighthouse Maintenance Guidance (Activity 10.2.2)

On a previous work item by WG1 it was agreed that the US Parks guide on lighthouse maintenance covered a lot of ground on this topic and as it was freely available it was unnecessary to repeat this information. The possible use of links to documents such as this, through the Heritage (and Civil Engineering) page of the IALA Website, will also be investigated.

Discussions during the meeting suggested that rather than producing a large document, what could be useful to members would be to access specifications used by authorities for various aspects of lighthouse building maintenance, which could then be collated in a location where they could be accessed by the members. This would allow them to compare their existing specifications with those in use by other authorities, which may provide options for improvement.

Committee members are therefore encouraged to submit examples of their building maintenance specifications to determine if there is sufficient interest in this subject to set up an index of similar or different specifications for the members to make use of.

Action Item

EEP Committee members are requested to submit examples of their building maintenance specifications to Bob McIntosh or as input to EEP 19.

# Working Group 3 – Environment, Quality Assurance, TRAINiNG & Publications

Working Group 3 was asked to respond to input papers EEP18/10/1, EEP18/10/2, EEP18/10/3, EEP18/10/4, EEP18/10/5, EEP18/10/6, EEP18/10/7, EEP18/10/8, EEP18/10/9, EEP18/10/10, EEP18/10/11, EEP18/10/12, EEP18/10/13, EEP18/10/14, EEP18/10/15, EEP18/10/16, EEP18/10/17, EEP18/10/18, EEP18/10/19, EEP18/10/19, EEP18/10/20, EEP18/10/21, EEP18/10/22, EEP18/10/23 and 24.

The detailed work programme for Working Group 3 was reviewed and the specific tasks progressed.

## **Knowledge Sharing / Knowledge Management, taking into account open source software** (Task 1\*)

### Develop procedures for informal sharing of information between members (Activity 1.1.1)

The objective of this work item is to develop procedures for informal sharing of information between members.

It is intended that the procedures for informal sharing of information between members would reside in the IALAWIKI and would describe the process for adding and updating content in the IALAWIKI. David Jeffkins created a number of new pages to demonstrate how the site could be used for information sharing within the EEP committee.

David Jeffkins will develop some draft procedures in consultation with Omar Frits Eriksson for adding content to the site and submit as input to EEP19.

Action Item

David Jeffkins is requested to develop procedures in consultation with Omar Frits Eriksson for adding and updating content to the IALAWIKI and forward as input to EEP19.

### Develop and populate the IALAWIKI with information on Aids to Navigation (AtoN) not included in official IALA documents (Activity 1.2.1)

The objective of this work item is to populate the IALAWIKI with information on AtoN that is not included in official IALA documents. The IALAWIKI for AtoN can be found at http://www.ialathree.org/ialawiki.

Committee members are requested to review the IALAWIKI website and submit relevant information for inclusion in the IALAWIKI.

Action Item

Committee members are requested to review the IALAWIKI website (http://www.ialathree.org/ialawiki) and submit relevant information inclusion in the IALAWIKI as input to EEP19.

## **Environment and Safety** (Task 6\*)

### Develop new Guideline on methods for determining and reducing carbon footprint of AtoN services (Activity 6.1.1)

The objective of this work item is to provide advice to members for determining their current carbon footprint for delivering their aids to navigation services and some potential options for reducing emissions.

No additional input papers have been received on this topic.

The working group agreed that the previous information supplied by Trinity House may be able to be incorporated into IALA Guideline 1034 on environmental considerations in aids to navigation engineering.

Committee members are requested to submit methodologies they currently use to evaluate the carbon footprint of their AtoN activities and initiatives that they have implemented to reduce emissions.

Action Item

Committee members are requested to submit methodologies they currently use to evaluate the carbon footprint of their AtoN activities and initiatives that they have implemented to reduce emissions and submit as input to EEP19.

### Revise NAVGUIDE content for guidance on safe handling and management of mercury (Activity 6.1.2)

The objective of this work item is to review the existing guidance in the NAVGUIDE for the safe handling and management of mercury.

This existing guidance on mercury in the NAVGUIDE was reviewed and considered to be adequate. This work item is now complete.

Adrian Wilkins investigated the progress of the United Nations ad hoc working group on mercury hazards but was unable to identify a national member to contact. Jean-Charles Leclair offered to make enquires through his international contacts. Concerns were raised that any new legally binding instrument on mercury may make its use in lighthouse applications extremely difficult.

Information on the management and the safe handling of and working with mercury was provided by Trinity House. This information (EEP18/WG3/WP5) will be forwarded to EEP19 for consideration as a draft Guideline.

Action Item

Jean-Charles Leclair is requested to establish a contact with a representative on the United Nations ad hoc working group on mercury.

The Secretariat is requested to forward the information provided by Trinity House (EEP18/WG3/WP5) to EEP19.

### Develop new Guideline on treating legionella and coli bacteria in water supplies of destaffed stations (Activity 6.1.3)

The objective of this work item is to provide advice to members on treating legionella and coli bacteria in water supplies of destaffed lighthouse stations.

Simon Millyard provided input papers on safe code of practice for the management and use of water at lighthouses. Simon Millyard advised that Trinity House is in the process of revising their documentation and procedures pertaining to potable water supplies on lighthouse estates in regard to bringing them into a more useful pragmatic document.

Simon Millyard agreed to share the revised documents when they are completed and will submit as input to EEP19 if they are available.

Action Item

Simon Millyard is requested to provide a copy of the revised Trinity House documentation on the management of potable water on lighthouse estates once completed and submit to EEP19 if available.

### Develop new Guideline on safety management for AtoN activities (Activity 6.1.4)

The objective of this work item is to provide advice to members on safety management for AtoN repair and maintenance activities.

Input papers EEP18/10/15, 16, 17, 18 and 21 from Japan Coast Guard relating to safety management for AtoN activities were reviewed and additional content was added to the draft Guideline on safety management for AtoN activities EEP18/WG3/WP1.

Adam Hay agreed to finalise the draft guideline and submit it as input to EEP19.

Committee members are requested to review EEP18/WG3/WP1 and provide comments to Adam Hay for inclusion in the final version of the document.

Action Item

The Secretariat is requested to forward EEP18/WG3/WP1 (draft Guideline on Safety Management for AtoN Activities) to EEP19.

Adam Hay is requested to finalise the draft Guideline on Safety Management for AtoN Activities and submit as input to EEP19.

Committee members are requested to review EEP18/WG3/WP1 on draft Guideline on Safety Management for AtoN activities and provide comments to Adam Hay for inclusion in the final version of the document.

Adam Hay is requested to provide a revised version of EEP18/WG3/WP1 for input to EEP19.

### Revise Guideline 1036 IALA Green Guide (Activity 6.3.1)

The objective of this work item is to provide guidance to members on environmental issues in the provision of AtoN.

The working group continued to review Guideline 1036 Environmental Consideration in Aids to Navigation Engineering and it was identified that a more comprehensive review is required in order to ensure the document provides guidance in line with current best practice.

It was also noted that it may be beneficial to also include information on the following topics in the revised 1036 Guideline:

* effects of global warming on rising sea levels and the impact on the provision of AtoN services;
* information on methods for determining carbon footprint and techniques to reduce emissions.

An amended version of Guideline 1036 environmental consideration in aids to navigation engineering was produced and provided as working paper EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering).

Adam Hay agreed to co-ordinate further updates to the document prior to EEP19.

Committee members were requested to review EEP18/WG3/WP2 and provide comments to Adam Hay.

Action Item

The Secretariat is requested to forward EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering) to EEP19.

Committee members are requested to review EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering) and provide comments to Adam Hay.

*Adam Hay is requested to co-ordinate updates to EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering) and submit it as input to EEP19.*

## **Aids to Navigation Training, IALA WWA** (Task 7\*)

This objective of this task is to assist in the development of IALA guidance documents and training material for the IALA World Wide Academy (The Academy).

Stephen Bennett, Programme Manager *for the WWA*, gave a short presentation that reiterated the process of developing model courses and highlighted the fact that The Board of The Academy had responsibility for issuing all model courses approved by Committees and formally endorsed by the Council.

Stephen Bennett outlined the Academy’s proposed document reference system for AtoN model courses. Existing Recommendations such as E-141 and V-103 would remain unchanged. Model courses based on them, such as E-141/1 (AtoN managers) would become Academy documents with new references. For example E141/1 would become IALA WWA E-141.Level 1.AtoN Man.0. Specific Level 2 model courses would carry a new reference number based on the Level 2 (L2) Module and Element within that Module. For example the DC Power Systems model course would be referred to as L2.2.1.

This system awaits approval by the Academy Board and endorsement by Council. The Academy would liaise with the VTS Committee to determine whether a similar reference system should apply to VTS model courses.

The EEP Committee notes the response from the e-NAV Committee suggesting that an additional training module on Radionavigation be included in the Level 2 course syllabus.

This suggestion is supported in principle and has been discussed with the Academy. The outcome was that the existing Module 9 (DGNSS) will be expanded to include appropriate radionavigation elements based on the very helpful list provided at paragraph two.

Action Item

The Academy is requested to liaise with the VTS Committee regarding the proposed new document numbering system.

The Academy is requested to liaise with the e-NAV Committee regarding the precise details of the changes to Module 9 (EEP18/output/19) before forwarding it to the WWA Board for approval.

### Develop new Model Course for the accreditation of level 1 AtoN training (Activity 7.1.1)

This task was completed at EEP17. E-141/1 was issued in December 2011 as was the Level 1+ model course for senior managers; E-141/2 (EEP18-10-8) - (new Academy reference IALA WWA E-141.Level 1+.AtoN SenMan.0).

The Academy considered that the Level 1+ model course was intended primarily for Executives in Competent Authorities and senior managers in AtoN service providers from States that would benefit from the Academy’s capacity building strategy. The Academy would deliver this course, as awareness seminars in target regions, rather than being taught by Accredited Training Organisations.

The working group reviewed a new draft of Recommendation E-141 Standards for Training and Certification of AtoN Personnel (EEP18-10-5) which was prepared by The Academy. The proposed new edition had inserted details of the new Level1+ model course and removed the syllabi for AtoN managers and technicians that had been republished in E-141/1 and IALA WWA.Level2.Tech.0. The new edition was accepted by the working group and the revised document (EEP18/output/20) would be forwarded to the Board of The Academy for final endorsement by Council.

Action Item

The Secretariat is requested to forward EEP18/output/20 (E141 Standards for Training and Certification of AtoN Personnel) to the Academy for approval and, if approved, the Council for endorsement.

### Develop Model Course for level 2 technician training (Activity 7.1.2)

The working group reviewed a draft model course overview on Level 2 training (IALA WWA.E-141.Level2.Tech.0) which had been prepared by The Academy (EEP/18/10/5). The amended text and the complete Level2 syllabus at Part B was accepted by the working group and so EEP18/output/21 would be forwarded to the Board of The Academy for final endorsement by Council.

The working group accepted the new abbreviated format for specific model courses set out in Part C of the Level 2 overview model course. It reviewed input document EEP18/10/20 on mercury rotating optics, which had been drafted by Simon Millyard in the revised format following consultation with The Academy. This revised document EEP18/output/10 will be forwarded to the Academy for approval.

Smail Hidouche and Nicholas Fady drafted a level 2 model course on surface preparation EEP18/WG3/WP3. This working paper will be sent to EEP19 for further development.

It was agreed that a target date for the publication of all Level 2 specific model courses would be set at for the end of 2014.

The list of courses in E141.Level2.Tech.0 was reviewed and the following modules identified for review and completion at EEP19:

* The Academy agreed to develop courses for 1.1 IALA and the NAVGUIDE, 1.2 The IALA Maritime Buoyage System, 1.3 Introduction to AtoN lights on buoys, 1.4 Introduction to other AtoN fitted to buoys and 6.1 Introduction to service craft.
* Ali Al Kalbani agreed to develop courses for 1.5 Buoy handling and safe working practices and 1.8 Buoy cleaning.
* Simon Millyard agreed to develop courses for 1.12 Maintenance of plastic buoys, 1.13 Maintenance of steel buoys, 1.14 Introduction to power sources on buoys, 2.5 Mains AC power systems and 2.7 lightning protection.
* Errol Joppich agreed to develop courses for 3.1 Light and range – General, 3.2 Light Sources and 3.3 Colour of marine lanterns.
* Adrian Wilkins agreed to develop courses for 3.8 Focal height; alignment and classical lenses, 5.1 Introduction to coatings and specifications, 5.2 Surface preparation, 5.3 Application of coatings and 5.4 Testing and quality control.
* David Jeffkins and Errol Joppich agreed to develop courses on 7.1 Introduction to Racons and their configuration and 7.2 Testing and quality control.
* Simon Millyard and David Jeffkins agreed to develop courses on 8.1 AIS – principles of operation, 8.2 AIS base station, 8.3 AIS AtoN and repeaters, 8.4 Installation; configuration; MMSI and slot management and 8.5 Maintenance and testing of AIS units.
* The Academy agreed to develop courses in consultation with the e-NAV Committee on 9.1 Introduction to Radionavigation Systems, 9.2 Position, Navigation and Timing (PNT) and 9.3 Accuracy, integrity, continuity, availability and vulnerability.

Committee members were requested to co-ordinate the development of level 2 model courses with Stephen Bennett ([stephen.bennett@iala-aism.org](mailto:stephen.bennett@iala-aism.org)) to ensure that tasks were not being duplicated. Stephen volunteered to complete and audit of the courses as they are completed and then submit them to EEP19.

Action Item

The Secretariat is requested to forward EEP18/output/21 (E141.Level2.Tech.0 Model Course overview on Level 2 Technician Training) to the Academy for approval.

The Secretariat is requested to forward EEP18/output/10 (Level 2 Model Course on Mercury Rotating Optics) to the Academy for approval.

The Secretariat is requested to forward EEP18/WG3/WP3 (Level 2 model course on surface preparation) to EEP19.

The Academy is requested to develop courses for 1.1 IALA and the NAVGUIDE, 1.2 The IALA Maritime Buoyage System, 1.3 Introduction to AtoN lights on buoys, 1.4 Introduction to other AtoN fitted to buoys and 6.1 Introduction to service craft.

Ali Al Kalbani is requested to develop courses for 1.5 Buoy handling and safe working practices and 1.8 Buoy cleaning.

Simon Millyard is requested to develop courses for 1.12 Maintenance of plastic buoys, 1.13 Maintenance of steel buoys, 1.14 Introduction to power sources on buoys, 2.5 Mains AC power systems and 2.7 lightning protection.

Errol Joppich is requested to develop courses for 3.1 Light and range – General, 3.2 Light sources and 3.3 Colour of marine lanterns.

Adrian Wilkins is requested to develop courses for 3.8 Focal height; alignment and classical lenses, 5.1 Introduction to coatings and specifications, 5.2 Surface preparation, 5.3 Application of coatings and 5.4 Testing and quality control.

David Jeffkins and Errol Joppich are requested to develop courses on 7.1 Introduction to Racons and their configuration and 7.2 Testing and quality control.

Simon Millyard and David Jeffkins are requested to develop courses on 8.1 AIS – principles of operation, 8.2 AIS base station, 8.3 AIS AtoN and repeaters, 8.4 Installation; configuration; MMSI and slot management and 8.5 Maintenance and testing of AIS units.

The Academy is requested to develop courses in consultation with the e-NAV Committee on 9.1 Introduction to Radionavigation Systems, 9.2 Position, Navigation and Timing (PNT) and 9.3 Accuracy, integrity, continuity, availability and vulnerability.

Committee members are requested to co-ordinate the development of additional Level 2 technician Model Courses with Stephen Bennett (Stephen.Bennet[t@iala-aism.org](mailto:t@iala-aism.org)).

## **Product Procurement ~~Certification~~** (Task 8\*)

### Maintain and develop product templates (Activity 8.2.1)

The objective of this work item is to maintain and develop the existing product templates and develop new guidance on the procurement of AtoN equipment and systems.

Following the IALA Councils decision to discontinue the Product Certification Program, IALA Guideline 1034 on Product Certification has been withdrawn and references in other IALA guidance documents updated.

The Product Certification Templates will be re-titled as Product Templates and retained for the purpose of procuring and comparing manufacturers’ products.

It is proposed that a new IALA Guideline be developed on AtoN product procurement and that the Product Templates will form part of this new Guideline. The development of the IALA Guideline on Product Procurement has been identified in the updated work programme for WG3.

Following review of IALA Guideline 1052 on quality management systems for aids to navigation service delivery it was proposed to remove an appendix on procurement and include this information in a proposed new Guideline on procurement.

Action item

Committee members are requested to develop content for a new guideline on procurement of AtoN equipment and submit as input to EEP19.

### Develop IALA product guide database schema (Activity 8.3.1)

This work item was completed at EEP16.

### Develop new Guideline and XML schema for AtoN product data exchange (Activity 8.3.2)

This work item has been moved to WG1 and will be removed from the WG3 detailed work programme.

## Quality Management (Task 12\*)

### Contribute to the review of Recommendation O-132 on quality management for aids to navigation authorities (Activity 12.1.1)

The working group reviewed input paper EEP18/10/23 by Hendrik Eusterbarkey on Recommendation O-132 and agreed to the proposed changes which included the removal of reference to IALA Guideline 1034 on the certification of marine aids to navigation which has now be withdrawn.

The Secretariat is requested to send the comments on Recommendation O-132 (EEP18/output/18) to the ANM Committee for consideration.

This work item is now complete.

Action Item

The Secretariat is requested to forward Liaison Note EEP18/output/17 (Review of Recommendation O-132 quality management for aids to navigation authorities) to the ANM Committee.

The Secretariat is requested to forward the track changes version of Recommendation O-132 (EEP18/output/18) to the ANM Committee.

### Review Guideline 1052 on quality management in aids to navigation service delivery (Activity 12.1.2)

The working group reviewed input paper EEP18/10/13 by Hendrik Eusterbarkey on Guideline 1052 and agreed to the proposed changes (EEP18/output/15) which included the removal of reference to IALA Guideline 1034 on the certification of marine aids to navigation which has now be withdrawn.

It was also recommended to remove Appendix B on procurement and include this information in a proposed new Guideline on procurement.

The Secretariat is requested to send output paper EEP18/output/16 to the ANM Committee for consideration and action.

This work item is now complete.

Action Item

The Secretariat is requested to forward Liaison Note EEP18/output/15 (Review of Guideline 1052 on quality management in aids to navigation service delivery) to the ANM Committee.

The Secretariat is requested to forward the track changes copy of Guideline 1052 (EEP/output/16) to the ANM Committee.

### Review NAVGUIDE (Activity 12.1.3)

The objective of this work item is to assist the ANM Committee in updating the IALA NAVGUIDE. It should be noted that the IALA Council have agreed to only a limited review of the NAVGUIDE being required during this work period as a substantial review was completed during the last work period.

The input documents for the NAVGUIDE were reviewed and the following suggested amendments forwarded to ANM in Liaison Note EEP18/output/11:

* Chapters 3.1 Visual Aids to Navigation and 3.2 Aids to Navigation Lights - review completed and recommended changes are listed in output paper EEP18/output/12.
* Chapter 8.9 Service Delivery - review completed and recommended changes are listed in output paper EEP18/output/13.
* Chapter 8.11 Preservation of Historic Aids to Navigation - review completed and recommended changes are listed in output paper EEP18/output/14.

Committee members are requested to review relevant sections of the NAVGUIDE and provide comments on any proposed changes and new graphical material e.g. photos, illustrations etc. as input to EEP19.

Action Item

The Secretariat is requested to forward Liaison note on NAVGUIDE updates (EEP18/output/11) to the ANM Committee.

The Secretariat is requested to forward comments on sections 3.1 and 3,2 of the NAVGUIDE (EEP18/output/12) to the ANM Committee.

The Secretariat is requested to forward comments on Service delivery (EEP18/output/13) to the ANM Committee.

The Secretariat is requested to forward comments on Preservation of Historic Aids to Navigation (EEP18/output/14) to the ANM Committee.

Committee members are requested to review relevant sections of the NAVGUIDE and provide comments on any proposed changes and new graphical material e.g. photos, illustrations etc. as input to EEP19.

### Develop a Guideline on Key Performance Indicators (Activity 12.2.1)

The objective of this work item is to develop a draft guideline on key performance indicators to assist members with measuring the performance of their AtoN activities.

David Jeffkins and Adam Hay provided information on the key performances indicators that they are currently using for measuring the performance of their AtoN activities. This working paper (EEP18/WG3/WP4) will be forwarded to EEP19.

Committee members are requested to provide comments or suggestions for key performance indicators for AtoN activities and submit them as input to EEP19.

Action Item

The Secretariat is requested to forward working paper EEP18/WG3/WP4 (Australia and Papua New Guinea) to EEP19.

Committee members are requested to provide comments or suggestions for key performance indicators for AtoN activities and submit as input to EEP19.

# Working Group 4 – Light & Vision

WG4 was asked to respond to Input Papers EEP18/11/1, EEP18/11/2, EEP18/11/3 rev1, EEP18/11/4, EEP18/11/5, EEP18/11/6, EEP18/11/7, EEP18/11/8, EEP18/11/9, EEP18/11/10, EEP18/11/11, EEP18/11/12 EEP18/11/13, and EEP18/11/14.

In addition to the original agenda, WG4 was also requested to respond to Input Paper EEP18/10/24.

Following the WG Chair’s meeting held prior to the EEP Committee, it was decided that Papers EEP18/11/4, EEP18/11/5, EEP18/11/6, EEP18/11/7, EEP18/11/9, and EEP18/11/10 were to be transferred to WG1 for their consideration and action. Input papers EEP18/8/9 and EEP18/8/10 were transferred from WG1 to WG4.

## Engineering – Visual Aids (Task 2\*)

### Update IALA Recommendation E-110 with respect to the characteristics of the EWMB.

The input paper submitted by Japan (EEP18/11/7) was taken into consideration. The table in E-110 has been amended to include the Emergency Wreck Marking Buoy, in order to provide better graphic representation and to keep in line with revised IALA MBS. The Revised E-110 is ready to be forwarded to the Council for approval.

The WG noted that Recommendation O-133 has not been removed from the list of publications on the IALA Website.

Action Item

The Secretariat is requested to forward Recommendation E-110 (EEP18/output/8) to Council for approval.

The Secretariat is requested to remove the O-133 from the list of Publications on the IALA Website.

## Visual perception of lights and daymarks (Task 3\*)

### Advice to ANM on the use of simulation in the design of AtoN systems.

A Liaison Note (EEP18/output/9) has been developed by the EEP Committee and is ready to be forwarded to the ANM Committee.

Action Item

The Secretariat is requested to forward Liaison note on the use of simulation in the design of AtoN systems (EEP18/output/9) to ANM18.

### Review present and developing IALA documents related to visual signalling and gather into a suite of documents similar to the E200 concept.

The task group started to consider the existing structure of EEP Visual Signalling documents following the input paper EEP18/11/12. The group broadened the scope to cover all IALA documentation from the point of view of both external and internal users, with the goal of simplifying searching for information as well as unifying the document structure. A working paper on the ideas from the group has been produced and all members were requested to e-mail their comments to Michael Card.

Action Item

All EEP members are requested to provide their comments on EEP18/WG4/WP1 by e-mail to Michael Card.

Michael Card is requested to provide a revised version of EEP18/WG4/WP1 as an input document for EEP19.

The Secretariat is requested to forward EEP18/11/12 to EEP19.

### Consider providing guidance on focal plane height of AtoN.

EEP18/11/11 suggests no new document is required but better references should be inserted in the NAVGUIDE. This suggestion was accepted by the WG and a new reference list to be inserted in the NAVGUIDE was completed and forwarded to WG3 and is included in EEP18/output/12

### Revise Guideline 1041 on Sector Lights to include Input Paper EEP18/11/14 on this subject.

The Guideline was discussed and the additional content agreed on. Malcolm Nicholson was requested to insert the content from EEP18/11/14 into Guideline 1041 and include additional inputs from Cybernetica and Germany inter-sessionally. He was also requested to submit a revised draft of Guideline 1041 to EEP19.

Action Item

Malcolm Nicholson is requested to insert the content of EEP18/11/14 into Guideline 1041 and include additional inputs from Cybernetica (Aivar Usk) and Germany.

Aivar Usk and Frank Hermann are requested to provide input to Malcolm Nicholson inter-sessionnally.

Members of WG4 are asked to review Guideline 1041 and provide comments to Malcolm Nicholson prior to EEP19.

Malcolm Nicholson is also requested to submit a revised version of Guideline 1041 as an input to EEP19.

### Develop new Guideline on Design of Daymarks: (Input Papers EEP18/11/3 and EEP18/11/8).

Inter-sessional work will continue and input papers will be submitted for the Brest Workshop and EEP19. Frank Hermann will lead the workgroup. It is expected that the output paper from the Brest Workshop will be an input paper for EEP19 for final review. A revised document was produced (EEP18/WG4/WP2) for further review and some definitions will have to be included in the IALA Dictionary once the Guideline is issued.

Action Item

All EEP members are requested to provide their comments on the new Guideline on Design of Daymarks (EEP18/WG4/WP2) to Frank Hermann prior to the Brest Workshop.

Frank Hermann is requested to lead the inter-sessional working group and provide an input paper on the new Guideline on Design of Daymarks for review during the Brest Workshop, via the Secretariat.

### Revise Recommendation E108 on Surface Colours to include measurement of surface colours.

Malcolm Nicholson will lead the inter-sessional work. It is expected that a draft revised E-108 will be submitted as input paper for final review at EEP19.

Action Item

Malcolm Nicholson and Frank Hermann are requested to work inter-sessionally and submit a proposed revised version of Recommendation E-108 for final review at EEP19.

### Update Guideline 1061 on Light Applications - Illumination of Structures to include information on the use of colour floodlighting of lighthouses.

Input Papers for EEP19 were requested from Korea, Japan and Norway.

Action Item

EEP Members from Korea, Japan and Norway are requested to provide input papers for updating Guideline 1061 for EEP19.

## Quality Management (Task 12\*)

### Update relevant sections of NAVGUIDE Review and update NAVGUIDE Sections 3.1, 3.2,

The draft paper EEP18/10/24 was reviewed and comment were provided to WG3 (EEP18/WG4/WP3). The comments were on Visibility of a Mark, Atmospheric Transmissivity, Electric light (LED chapter), Photometry of Marine Aids to Navigation Signal Lights and on Floating Aids.

## e-Navigation across Committees (Task 13\*)

### Develop the concept of visible light for data communications.

Paper EEP15/11/5 by Japan Coast Guard is the only known document on the topic. It is recommended that a Technology Watch occurs and the paper become available on the IALA Wiki. No further action is required at this stage.

Action Item

The Secretariat is requested to make EEP15/11/5 from the Japan Coast Guard available on the IALA Wiki site.

WG members are requested to keep the Committee informed of any future developments.

## Simulation in the design of AtoN

EEP18/8/9 (ANM17/output/4) and EEP18/8/10 refer.

The WG considered the input papers and prepared a liaison note (EEP18/output/7) for the ANM Committee.

Action item

The Secretariat is requested to forward the Liaison note on Simulation in the design of Aton (EEP18/output/7) to ANM18.

# Future Work Programme

The Committee was asked to think of thematic items that could form part of the future work programme, bearing in mind that the Committee structure will be reviewed.

Items suggested included buoy design, conspicuity and items emerging from a review of current EEP documentation

Action item

The Committee members are requested to consider items for inclusion in the 2014 – 2018 work programme in order to contribute to a ‘brainstorming’ session at EEP19.

# Review of output and working papers

WG Chairmen introduced their reports and output documents, the dispositions of which were agreed, as indicated above.

Stephen Bennett expressed his gratitude for the enthusiasm in providing assistance to the WWA.

The Chairman expressed his satisfaction for what had been achieved to the WG Chairmen, their sub-group Chairs and the Working Groups for producing another significant output. He reminded Committee members that the list of required model courses is now available at IALA WWA.Level2.Tech.0 (EEP18/output/21) and asked them to consider which courses they could contribute to.

# Any Other Business

## Video request

EEP18/14/1 refers

The Committee considered the request at in EEP18/14/1 and was invited to respond to the company’s request, if appropriate.

Action item

EEP Committee members interested in the video project are requested to contact Maryline Holluigue.

## IALA Bulletin

The Chairman asked that all Committee members consider submitting an article to the IALA Bulletin.

## IALA Wiki

The Chairman encouraged all Committee members to make use of the IALA Wiki sites and said that members could expect to receive an e-mail, in the near future, giving procedural and technical advice about their use.

Action item

The Chairman and Vice Chairman are requested to draft an e-mail about the use of the IALA Wiki sites, for distribution to all EEP Committee members.

## IALA LinkedIn

The Chairman demonstrated the IALA LinkedIn site, for which he is the manager, and showed that there was already an entry on it for EEP18. He said that there are now 331 members but only 7 hands were raised when it was asked who present were members. The Chairman indicated that this was not good enough. The site was represented as a good way in which to gain knowledge and ask questions.

# Date and venue of next meeting

It is intended that EEP19 will meet between 15 and 19 October, 2012 at IALA.

# Review of session report

The report of the meeting (EEP18/output/1) was reviewed and approved by the Committee.

Action item

The Secretariat is requested to forward the EEP18 Committee report (EEP18/output/1) to Council to note.

# Closing of the Meeting

The Chairman introduced the Secretary-General who thanked the Committee for what he knew to have been very productive. He reminded the Committee that it was thanks to the members that IALA continues to prosper and quoted the WWA as just one of the reasons that IALA is getting busier. He then thanked the Chair, Vice Chair and the Secretary.

The Chairman thanked the secretary-General for his continued support before acknowledging the enthusiastic way in which a heavy workload had been tackled and he also thanked the Committee for its efforts during the meeting. He then thanked the Secretary and asked that the Committee’s gratitude be passed to the Secretariat for their cheerful and courteous support.

He concluded by saying that all were invited to EEP19 and wished everyone a safe journey home.

# List of Annexes

1. Agenda

A copy of the agenda is at Annex A.

1. Participants

A list of participants is at Annex B.

1. Working Group 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. Revision of the Work Programme

A revised work programme is at Annex G.

1. Detailed Work Programme

A detailed work programme is at Annex H

1. Developments in lighthouse conservation

Reports from members on the status of lighthouse conservation are at Annex I.

1. Agenda

**18th Meeting of the Engineering, Environmental & Preservation of Historic Lighthouses Committee**

The 18th meeting of the **EEP Committee** will be held from 16 – 20 April, 2012 at IALA, St Germain en Laye, France.

The opening plenary will commence at 1300 on Monday, 16 April and the closing plenary will end at approximately 1300 on Friday, 20 April.

Committee Chair, Vice-Chair and Working Group Chairpersons are requested to meet at 0930 on Monday, 16 April.

Change from EEP17

**AGENDA**

1. Approval of the agenda
2. Review of action items from last meeting
3. Review of input papers
4. Reports from other bodies:
   1. IALA Council – 52nd Session, December 2011
   2. PAP22, October 2011
   3. Report COMSAR16
5. Reports from Rapporteurs:
   1. Developments in Aids to Navigation (M1\*)
   2. Developments in Renewable Energy Sources (M2\*) – Nil return.
   3. Developments in Battery Technology (M3\*)
   4. Developments in New Light Sources (M4\*)
   5. IALA Certification Process (M5\*) (Removed at C52)
   6. CIE-IALA Liaison (M6\*)
6. Presentations
   1. Brief on WWA Jean-Charles Leclair
   2. Installation of AIS AtoN in the Antarctic area Mariano Luis Marpegan
   3. Installation Practices of Plastic Buoys in Korea Jeon Jin-Gee
   4. Electrical bird deterrence Jørgen Royal Petersen
   5. AIS & VDE in e-Navigation Mike Card
   6. Greek Lighthouses and Heritage Seminar 2013 Panos Chiotis
   7. NCA new AtoN Leife Arne Larsen
   8. Brest Workshop Michel Cousquer
   9. Ómar on AIS Ómar Frits Eriksson
7. Establish Working Groups
8. Working Group 1 – AtoN infrastructure design and maintenance (WG1)
   1. **AtoN Engineering (Task 2\*)**
   2. **Power Systems and Energy Storage** (Task 4\*)
   3. **Remote Control and Monitoring** (Task 5\*)
   4. **Risk Assessment Techniques in AtoN Design and maintenance** (Task 11\*)
   5. **e-Navigation across Committees** (Task 13\*)
   6. **Polar Engineering** (Task 14\*)
   7. The use of Audible Signals as aids to navigation (*in conjunction with ANM*) (Task 15\*)
   8. **Workshops and Seminars** (Task 16\*)
9. **Working Group 2 –** Heritage, Conservation and Civil Engineering (WG2)
   1. **Heritage and Conservation** (Task 9\*)
   2. **Civil Engineering and Structures** (Task 10\*)
   3. **Workshops and Seminars** (Task 16\*)
10. **Working Group 3 -** Environment, quality assurance, training and publications (WG3)
    1. Knowledge Sharing / Knowledge Management, taking into account open source software (Task 1\*)
    2. **Environment and safety** (Task 6\*)
    3. **Aids to Navigation Training, IALA WWA** (Task 7\*)
    4. **Product Procurement** (Task 8\*) Task modified at C52
    5. **Quality Management** (Task 12\*)
    6. **Workshops and Seminars** (Task 16\*)
       1. Workshop WWA / AtoN training (February 2013)
11. **Working Group 4 – Light and Vision (WG4)**
    1. **Engineering – Visual Aids (Task 2\*)**
    2. **Visual perception of lights and daymarks** (Task 3\*)
    3. **Workshops and Seminars** (Task 16\*)
12. Future Work Programme (2014 – 2018)
13. Review of output and working papers
14. Any other business
15. Date and venue of next meeting
16. Review of session report
17. List of Participants

**Argentina** **Hidrovia SA**

Mr Mariano Luis MARPEGAN

Ave Corrientes 316

Piso 2

Buenos Aires (C1043AAQ)

Argentina

Phone +54 11 43 206 900

Fax +54 11 43 20 69 31

Mobile phone: +54 911 63630594

e-mail (main): [mlmarpegan@hidrovia-gba.com.ar](mailto:mlmarpegan@hidrovia-gba.com.ar)

**Australia** **Australian Maritime Safety Authority**

Mr David JEFFKINS

Level 5

82 Northbourne Avenue

Braddon, ACT 2612

Australia

Phone +61 2 6279 5677

Fax +61 2 6279 5002

Mobile phone: +61 438 635 797

e-mail (main): [djj@amsa.gov.au](mailto:djj@amsa.gov.au)

e-mail (alternative): [david.jeffkins@amsa.gov.au](mailto:david.jeffkins@amsa.gov.au)

**Australian Maritime Systems**

Mr. Errol JOPPICH

655 McArthur Av. Central

Pinkenba, QLD 4009

Australia

Phone +61 736 334 104

Fax +61 736 334 199

Mobile phone: +61 417 758 226

e-mail (main): [etj@marsys.com.au](mailto:etj@marsys.com.au)

**Sealite Pty. Ltd.**

Mr. Chris PROCTER

11 Industrial Drive

Somerville, Vic 3912

Australia

Phone +61 359 77 61 28

Fax +61 359 77 61 24

Mobile phone: +61 402152 400

e-mail (main): [c.procter@sealite.com](mailto:c.procter@sealite.com)

**Bahrain** **MENAS**

Mr Shaheen MIRZA

MENAS Maritime Operations Centre

P.O. Box 66

Bahrain

Phone +973 17 82 85 50

Fax +973 17 72 77 65

Mobile phone: +973 39 65 01 80

e-mail (main): [mirza@menas.com.bh](mailto:mirza@menas.com.bh)

e-mail (alternative): [info@menas.com.bh](mailto:info@menas.com.bh)

**Middle East Navigation Aids Services**

Mr Jaffer ABDULLAH

MENAS Maritime Operations Centre

P.O.Box 66 Manama

Bahrain

Phone +973 17 82 85 55

Fax +973 17 72 77 65

Mobile phone: +973 39 62 85 41

e-mail (main): [jaffer@menas.com.bh](mailto:jaffer@menas.com.bh)

e-mail (alternative): [info@menas.com.bh](mailto:info@menas.com.bh)

**Brazil** **Centro de Sinalizaçao Nautica Almirante Moraes Rego**

Mr Paulo Mauricio REGO

Rua Barao de Jaceguay, s/n°

Ponta da Armaçao

Niteroi - Rio de Janeiro 24.048-900

Brazil

Phone +55 21 2189 3529

Fax +55 21 2189 3132

e-mail (main): [paulo.mauricio@camr.mar.mil.br](mailto:paulo.mauricio@camr.mar.mil.br)

e-mail (alternative): [paulomr@superig.com.br](mailto:paulomr@superig.com.br)

**Bulgaria** **Bulgarian Ports Infrastructure Co.**

Ms Kalina TCHIKOVA

69 Shipchenski Prohod Blvd.

Sofia 1574

Bulgaria

Phone +359 2 807 9932

Fax +359 2 807 9966

Mobile phone: +359 885 995 942

e-mail (main): [k.tchikova@bgports.bg](mailto:k.tchikova@bgports.bg)

**Cameroon** **Autorité Portuaire Nationale**

Mrs Nadine EPARA

BP-11691 Yaoundé

Cameroon

Phone +237 77 76 53 55

Fax +237 22 23 73 14

e-mail (main): [nadineepara@yahoo.fr](mailto:nadineepara@yahoo.fr)

**Autorité Portuaire Nationale**

Mr Willie TSANGA

Cameroon

Phone +937 99 93 95 39

Fax +937 22 23 73 14

e-mail (main): [tsangambawillie@yahoo.fr](mailto:tsangambawillie@yahoo.fr)

**Autorité Portuaire Nationale**

Mr Josue YOUMBA

Cameroon

Phone +237 22 23 73 14

e-mail (main): [jyoumba@yahoo.fr](mailto:jyoumba@yahoo.fr)

**Canada** **Canadian Coast Guard**

Mr. Richard MOORE

200 Kent Street

Station 7S036

Ottawa, ON K1A 0E6

Canada

Phone +1 613 949 9137

Fax +1 613 998 9258

Mobile phone: +1 613 296 6664

e-mail (main): [richard.p.moore@dfo-mpo.gc.ca](mailto:richard.p.moore@dfo-mpo.gc.ca)

**China** **Maritime Safety Administration of P.R.C**

Mr. Yang LIANG

11 Jianguomennei Ave.

BEIJING 100736

China

Phone + 86 10 6529 2489

Fax + 86 10 6529 2893

e-mail (main): [brightman.cmsa@gmail.com](mailto:brightman.cmsa@gmail.com)

**Tianjin Maritime Safety Administration of P.R. of China**

Mr. Shen ZHIJIANG

243, Yougtaï Road

Tanggu District

Tianjin

China

Phone + 86 22 5887 0852

Fax + 86 22 25 71 65 20

Mobile phone: + 86 189 202 80 165

e-mail (main): [shen1968@163.com](mailto:shen1968@163.com)

**Denmark** **Danish Maritime Authority**

Mr. Jorgen ROYAL PETERSEN

Driftscenter Korsor

Sobatteretiet 2

DK-4220 Korsoer

Denmark

Phone +45 58 36 00 32

Fax +45 58 36 0031

Mobile phone: +45 24 28 82 96

e-mail (main): [jrp@dma.dk](mailto:jrp@dma.dk)

**Denmark**  **Danish Maritime Authority**

**(Chairman)**

Mr. Omar Frits ERIKSSON

Overgaden Oven Vandet 62 B

P. O. Box 1919

1023 Kobenhavn K

Denmark

Phone + 45 32 689 598

Fax + 45 32 689 634

Mobile phone: + 45 21 676 644

e-mail (main): [ofe@dma.dk](mailto:ofe@dma.dk)

**Ecuador** **INOCAR**

Mr Johnny BALON DE LA CRUZ

Guayaquil

Av. 25 de Julio via Pto Maritimo

Ecuador

Phone +59 38 07 04 529/+593 42 481 300

Fax +59 34 24 85 166

Mobile phone: +59 38 07 04 524

e-mail (main): [johnnybalon1982@hotmail.com](mailto:johnnybalon1982@hotmail.com)

e-mail (alternative): [jbalon@inocar.mil.cc](mailto:jbalon@inocar.mil.cc)

**INOCAR**

Mr Byron TERAN HURTADO

Guayaquil

Av.25 de Julio, via Pto Maritimo

Ecuador

Phone +59 342 481 300

Fax +59 34 24 85 166

Mobile phone: +59 39 738 41 84

e-mail (main): [BAT8@hotmail.om](mailto:BAT8@hotmail.om)

e-mail (alternative): [bytehur@gmail.com](mailto:bytehur@gmail.com)

**Estonia** **Cybernetica AS**

Mr. Aivar USK

Akadeemia tee 21

2618 Tallinn

Estonia

Phone +372 639 7991

Fax +372 639 7992

Mobile phone: +372 513 1021

e-mail (main): [aivar.usk@cyber.ee](mailto:aivar.usk@cyber.ee)

**Finland** **Finnish Transport Agency**

Mr Sami LASMA

P.O. Box 33

FI-00521 Helsinki

Finland

Phone +358 20 637 373

e-mail (main): [sami.lasma@fta.fi](mailto:sami.lasma@fta.fi)

**Sabik Oy**

Mr Jonas LINDBERG

Merituulentie 30

PB 19

Fin-06151 Porvoo

Finland

Phone +358 19 560 1100

Fax +358 19 560 1120

Mobile phone: +358 40 8289460

e-mail (main): [jonas.lindberg@sabik.com](mailto:jonas.lindberg@sabik.com)

**France** **CETMEF**

M Michel COUSQUER

Technopôle Brest Iroise

BP 5

29280 Plouzané

France

Phone +33 2 98 05 67 78

Fax +33 2 98 05 67 67

Mobile phone: + 33 (0)6 63 37 44 59

e-mail (main): [michel.cousquer@developpement-durable.gouv.fr](mailto:michel.cousquer@developpement-durable.gouv.fr)

**CETMEF**

Mr Nicolas FADY

Technopole Brest Iroise

B.P. 5

29280 Plouzané

France

e-mail (main): [nicolas.fady@developpement-durable.gouv.fr](mailto:nicolas.fady@developpement-durable.gouv.fr)

**CETMEF**

Mr Smail HIDOUCHE

Technopole Brest Iroise

29280 Plouzane

France

Phone +33 2 98 05 67 59

e-mail (main): [smail.hidouche@developpement-durable.gouv.fr](mailto:smail.hidouche@developpement-durable.gouv.fr)

e-mail (alternative): [hidouche.smail@yahoo.fr](mailto:hidouche.smail@yahoo.fr)

**CETMEF**

Mr. Philippe RENAUDIN

Technopôle Brest Iroise

BP 5

29280 Plouzané

France

Phone +33 2 98 05 67 50

Fax +33 2 98 05 67 67

e-mail (main): [philippe.renaudin@equipement.gouv.fr](mailto:philippe.renaudin@equipement.gouv.fr)

**CETMEF/DT/TSMF/PE**

Mr Yves-Marie BLANCHARD

Technopôle Brest Iroise

BP 15

29880 Plouzané

France

Phone +33 (0)2 98 05 67 88

Fax +33 (0)2 98 05 67 67

e-mail (main): [yves-marie.blanchard@developpement-durable.gouv.fr](mailto:yves-marie.blanchard@developpement-durable.gouv.fr)

**GISMAN**

Mr. Vincent ROGET

7 rue Louis Blériot

ZA Toul Garros

56400 Auray

France

Phone +33 2 97 29 41 21

Fax +33 2 97 29 41 30

Mobile phone: +33 6 88 29 13 70

e-mail (main): [vincent.roget@gisman.fr](mailto:vincent.roget@gisman.fr)

**Germany** **Traffic Technologies Centre**

Mr. Frank HERMANN

Am Berg 3

56070 Koblenz

Germany

Phone +49 261 98 19 2413

Fax +49 261 98 19 2155

e-mail (main): [frank.hermann@wsv.bund.de](mailto:frank.hermann@wsv.bund.de)

**Traffic Technologies Centre, German Federal Waterways Administration**

Mr. Jörg UNTERDERWEIDE

Lighting Technologies and Central Material Supply

Am Berg 3

56070 Koblenz

Germany

Phone + 49 261 9819 2400

Fax + 49 261 9819 2155

e-mail (main): [joerg.unterderweide@wsv.bund.de](mailto:joerg.unterderweide@wsv.bund.de)

**Greece** **Hellenic Navy**

Mr Panos CHIOTIS

Palataki

Piraeus 18510

Greece

Phone +30 210 45 81 523

Fax +30 210 458 14 10

Mobile phone: +30 694 597 55 90

e-mail (main): [panos@hotmail.com](mailto:panos@hotmail.com)

e-mail (alternative): [yf\_dieyu@hellenicnavy.gr](mailto:yf_dieyu@hellenicnavy.gr)

**IALA** **Accredited Representative of IALA to IMO / Dean, IALA WWA**

R-Adm. Jean-Charles LECLAIR

10 rue des Gaudines

78100 Saint Germain en Laye

France

Phone +33 4 93 88 25 25

Mobile phone: +33 6 62 29 02 74

e-mail (main): [jean-charles.leclair@iala-aism.org](mailto:jean-charles.leclair@iala-aism.org)

**Programme Manager, WWA**

Mr Stephen BENNETT

10 rue des Gaudines

Saint Germain en Laye

France

Phone +44 243 533 148

Fax +33 1 34 51 82 05

Mobile phone: +44 7787 320 761

e-mail (main): [Stephen.Bennett@iala-aism.org](mailto:Stephen.Bennett@iala-aism.org)

**Technical Coordination Manager**

Dr. Mike HADLEY

10 rue des Gaudines

78100 Saint Germain en Laye

France

Phone +33 1 34 51 70 01

Fax +33 1 34 51 82 05

e-mail [mike.hadley@iala-aism.org](mailto:mike.hadley@iala-aism.org)

e-mail (alternative) [advnav@btinternet.com](mailto:advnav@btinternet.com)

**Italy** **Italian Navy**

Mr Alessio CHIANURA

Maritecnofari

Arsenale Marina Militare

19100 La Spezia

Italy

Phone +39 0187 7833 84/6

Fax +39 0187 7833 85

Mobile phone: +39 339 8029 327

e-mail (main): [alessio.chianura@persociv.difesa.it](mailto:alessio.chianura@persociv.difesa.it)

e-mail (alternative): [alessio.chianura@libero.it](mailto:alessio.chianura@libero.it)

**Italian Navy**

Capt. Roberto DA POZZO

Maritecnofari

Arsenale Marina Militare

19100 La Spezia

Italy

Phone +39 0187 7833 84/6

Fax +39 0187 7833 85

e-mail (main): [maritecnofari.sp@marina.difesa.it](mailto:maritecnofari.sp@marina.difesa.it)

e-mail (alternative): [roberto.dapozzo@marina.difesa.it](mailto:roberto.dapozzo@marina.difesa.it)

**Japan** **Japan Aids to Navigation Association (JANA)**

Mr. Tamotsu IKEDA

Kaiji-Center Bldg.

4-5, Kouji-Machi, Chiyoda-ku

Tokyo 102-0083

Japan

Phone +81 (0)3 3230 1470

Fax +81 (0)3 3230 1050

e-mail (main): [ikeda\_t@jana.or.jp](mailto:ikeda_t@jana.or.jp)

**Japan Coast Guard**

Mr Kazuyuki TANAKA

Aids to Navigation Engineering Division, Maritime Traffic Department

2-1-3 Kasumigaseki Chyouda-ku

Tokyo 100-8918

Japan

Phone +81 3 3591 6361 (ext.6705)

Fax +81 3 3591 5468

e-mail (main): [tanaka-z5jpn@kaiho.mlit.go.jp](mailto:tanaka-z5jpn@kaiho.mlit.go.jp)

**Zeni Lite Buoy Co., Ltd.**

Mr. Michael D. CARD

2-176-1 Toyoshima Minami

Ikeda-City

Osaka 563-0035

Japan

Phone +81 80 3058 6543

Mobile phone: +81 8030586543

e-mail (main): [mike.card@zenilite.co.jp](mailto:mike.card@zenilite.co.jp)

**Korea** **MLTM**

Mr Jin-Gee JEON

47 Gwanmun-ro, Gwaecheon-City

Gyeonggi-do

Korea

Korea

Phone +82 2 2110 63 86

**New Marine Engineering**

Mr Min-Young LIM

1303 N° 22F

Centum5-Gil Haendae-gu

Busan Korea

Korea

Phone +82 51 920 33 33

Fax +82 51 920 33 34

e-mail (main): [marine@newmarine.co.kr](mailto:marine@newmarine.co.kr)

e-mail (alternative): [charii@korea.com](mailto:charii@korea.com)

**Netherlands** **Directorate Gen. Of Public Works and Water Management**

Mr. Sipke HOEKSTRA

North Sea Directorate

P.O. Box 5807

2280 HV Rijswijk

Netherlands

Phone + 31 70 33 66600 / 884

Fax + 31 70 415 22 46

Mobile phone: + 31 6 52 56 27 18

e-mail (main): [sipke.hoekstra@rws.nl](mailto:sipke.hoekstra@rws.nl)

**Norway** **Norwegian Coastal Administration**

Ms. Hilde ANDRESEN

Postboks 1502

N° - 6025 Alesund

Norway

Phone + 47 33 03 48 08

Mobile phone: + 47 91 60 58 28

e-mail (main): [hilde.andresen@kystverket.no](mailto:hilde.andresen@kystverket.no)

**Norwegian Coastal Administration**

Ms Ingvild KRAGSET

P O Box 1502

Norway

e-mail (main): [ingvild.kragset@kystverket.no](mailto:ingvild.kragset@kystverket.no)

**Norwegian Coastal Administration**

Mr Leif Arne LARSEN

Box 1502

6025 Aalesund

Norway

Phone +47 70 16 01 77

Fax +47 70 16 01 01

Mobile phone: +47 95 72 45 04

e-mail (main): [leif.arne.larsen@kystverket.no](mailto:leif.arne.larsen@kystverket.no)

**Norwegian Lighthouse Museum**

Mr Jo VAN DER EYNDEN

Box 517

4605 Kristiansand

Norway

Phone +47 48 11 16 37

Fax +47 38 07 45 04

Mobile phone: +47 48 11 16 37

e-mail (main): [Jovander.Eynden@vaf.no](mailto:Jovander.Eynden@vaf.no)

e-mail (alternative): [jey@vaf.no](mailto:jey@vaf.no)

**Oman** **AMNAS**

Mr Yousef Khalifa AL-RAHBI

Operations Officer

P.O Box 1677

CPO seeb, pc 111

Sultanate of Oman

Phone +968 24 51 02 83

Fax +968 24 51 04 32

Mobile phone: +968 92282692

e-mail (main): [contracts@amnas-oman.com](mailto:contracts@amnas-oman.com)

**AMNAS**

Mr Ali Rashid AL KALBANI

Operations and Development Manager

P.O. Box 1677

CPO Seeb, PC 111

Oman, Sultanate of

Phone +968 24510 283

Fax +968 24510 430

Mobile phone: +968 99799 333

e-mail (main): [ops@amnas-oman.com](mailto:ops@amnas-oman.com)

**Papua New**  **Nawae Constructions**

**Guinea**

Mr Adam HAY

P.O. Box 261

Alotau

Milne Bay Province

Papua New Guinea

Phone +675 6411 233

Fax +675 6411 183

Mobile phone: +675 7338 6434

e-mail (main): [ahay@nawae.com.pg](mailto:ahay@nawae.com.pg)

e-mail (alternative): [ahay@liaisonltd.com.pg](mailto:ahay@liaisonltd.com.pg)

**Portugal** **Portuguese Lighthouse Authority**

Mr Joaquim PESSOA

Direcçao de Farois

Estrada Marginal

2770-210 Paço de Arcos

Portugal

Phone +351 21 44 61 660

Fax +351 21 44 10193

Mobile phone: +351 91 663 0673

e-mail (main): [teixeira.pessoa@marinha.pt](mailto:teixeira.pessoa@marinha.pt)

e-mail (alternative): [joaquimpessoa@vodafone.pt](mailto:joaquimpessoa@vodafone.pt)

**Portuguese Lighthouse Authority**

Lt Cdr. Manuel SANTOS

Dirreçao de Farois

Estrada Marginal

2770-210 Paço de Arcos

Portugal

Phone +351 21 44 61 660

Fax +351 21 44 10 193

Mobile phone: +351 91 66 30 658

e-mail (main): [manuel.santos@marinha.pt](mailto:manuel.santos@marinha.pt)

**Scotland** **Northern Lighthouse Board**

Mr. Bob McINTOSH

84 George Street

Edinburgh EH2 3DA

Scotland

Phone + 44 1314 73 31 61

Fax + 44 1312 20 20 93

Mobile phone: + 44 7831 665 388

e-mail (main): [bobm@nlb.org.uk](mailto:bobm@nlb.org.uk)

**Northern Lighthouse Board**

Mr. Moray WADDELL

84 George Street

Edinburgh EH2 3DA

Scotland

Phone + 44 131 473 3150

Fax + 44 131 220 2093

e-mail (main): [morayw@nlb.org.uk](mailto:morayw@nlb.org.uk)

**Spain** **Mediterraneo Senales Maritimas S.L.L.**

Mr. Fernando ROMERO

Poligono Industrial Mas de Tous

C/Belgrado, Nave 6

46185 La Pobla de Vallbona - Valencia

Spain

Phone +34 962 761 022

Fax +34 962 761 598

e-mail (main): [fromero@mesemar.com](mailto:fromero@mesemar.com)

e-mail (alternative): [fer.msm@gmail.com](mailto:fer.msm@gmail.com)

**Puertos del Estado**

Mrs. Carmen MARTINEZ

Avda. del Partenon, 10

28042 Madrid

Spain

Phone + 34 91 524 55 26

Fax + 34 91 524 55 06

e-mail (main): [cmartinez@puertos.es](mailto:cmartinez@puertos.es)

e-mail (alternative): [carmaclemente@gmail.com](mailto:carmaclemente@gmail.com)

**Sweden** **Swedish Maritime Administration**

Mr. Christian LAGERWALL

S-601 78 Norrköping

Sweden

Phone + 46 10 478 4814

Fax + 46 11 126791

Mobile phone: + 46 708 191193

e-mail (main): [christian.lagerwall@sjofartsverket.se](mailto:christian.lagerwall@sjofartsverket.se)

**UK** **Consultant with Pharos Marine**

Mr. Adrian WILKINS

65 Sylvan Avenue

East Cowes

Isle of Wight PO32 6QS

UK

Phone + 44 1983 297958

Mobile phone: + 44 7 900 400 272

e-mail (main): [adrianwilkins@talk21.com](mailto:adrianwilkins@talk21.com)

**GLA-R&RNAV**

Mr Malcolm NICHOLSON

GLA ReRNAV

The Quay

Harwich, Essex, CO12 3JW

UK

Phone +44 1255 245 143

Mobile phone: +44 7768 50 55 79

e-mail (main): [malcolm.nicholson@gla-rrnav.org](mailto:malcolm.nicholson@gla-rrnav.org)

**Trinity House Lighthouse Service**

Mr Peter DOBSON

The Quay

Harwich, Essex

CO12 3JW

UK

Phone +44 1255 245063

Mobile phone: +44 7768 036002

e-mail (main): [peter.dobson@thls.org](mailto:peter.dobson@thls.org)

**Trinity House Lighthouse Service**

Mr Simon MILLYARD

The Quay

Harwich, Essex

CO12 3JW

UK

Phone +44 1255 245152

Mobile phone: +44 777 646 55 37

e-mail (main): [simon.millyard@thls.org](mailto:simon.millyard@thls.org)

1. Working Group Participants
2. AtoN infrastructure design and maintenance

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Organisation / Country** |
|  | Adrian Wilkins (Chairman) | Pharos Marine / England |
|  | Adam Hay (Rapporteur) | Nawae Construction / Papua New Guinea |
|  | Jaffer Abdulla | MENAS / Bahrain |
|  | Ali Rashid Al Kalbani | AMNAS / Oman |
|  | Yousef Khalifa Al Rahbi | AMNAS / Oman |
|  | Alessio Chianura | Italian Navy |
|  | Michel Cousquer | CETMEF / France |
|  | Peter Dobson | Trinity House / England |
|  | Frank Hermann | German Traffic Technologies Centre |
|  | Smail Hidouche | CETMEF / France |
|  | Sipke Hoekstra | North Sea Directorate / Netherlands |
|  | Byron Teran Hurtado | INOCAR / Ecuador |
|  | Tamotsu Ikeda | JANA / Japan |
|  | Jin-Gee Jeon | MTLM / Republic of Korea |
|  | Leif Arne Larsen | Norwegian Coastal Administration |
|  | Min-Young Lim | New Marine Engineering / Republic of Korea |
|  | Jonas Lindberg | Sabik Oy / Finland |
|  | Mariano Luis Marpegan | Hidrovia SA / Argentina |
|  | Simon Millyard | Trinity House / England |
|  | Shaheen Mirza | MENAS / Bahrain |
|  | Richard Moore | Canadian Coast Guard |
|  | Malcolm Nicholson | GLA R&RNAV / UK |
|  | Joaquim Pessoa | Portuguese Lighthouse Authority |
|  | Jørgen Royal Petersen | Danish Maritime Authority |
|  | Roberto da Pozzo | Italian Navy |
|  | Chris Proctor | Sealite / Australia |
|  | Paulo Mauricio Rego | Brazilian Navy |
|  | Phillipe Renaudin | CETMEF / France |
|  | Fernando Romero | Mediterraneo Senales Maritimas / Spain |
|  | Manuel Santos | Direcção de Faróis / Portugal |
|  | Kazuyuki Tanaka | Japan Coast Guard |
|  | Willie Tsanga | National Ports Authority / Cameroon |
|  | Jorg Unterderweide | German Federal Waterways Administration |
|  | Aivar Usk | Cybernetica AS / Estonia |
|  | Moray Waddell | Nothern Lighthouse Board / Scotland |
|  | Josue Youmba | National Ports Authority / Cameroon |
|  | Shen Zhijiang | China Maritime Safety Administration |

1. Heritage, conservation and civil engineering

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Organisation / Country** |
|  | Bob McIntosh (Chair) | Northern Lighthouse Board / Scotland |
|  | Hilde Andresen | Norwegian Coastal Administration |
|  | Johnny Balon | INOCAR / Ecuador |
|  | Nadine Epara (part) | National Port Authority / Cameroon |
|  | Nicolas Fady | CETMEF / France |
|  | Errol Joppich | Australian Maritime Systems |
|  | Ingvild Kragset | Norwegian Coastal Administration |
|  | Christian Lagerwall | SMA / Sweden |
|  | Min Young Lim | New Marine Engineering, / Republic of Korea |
|  | Yang Liang | China MSA |
|  | Carmen Martinez | Puertos del Estado / Spain |
|  | Chiotis Panos (part) | Greek Lighthouse Authority |
|  | Roberto da Pozzo | Italian Navy |
|  | Kazuyuki Tanaka (part) | Japan Coast Guard |
|  | Kalina Tchikova | Bulgarian Ports Infrastructure Company |
|  | Jo van der Eynden | Norwegian Lighthouse Museum |

1. Environment, quality assurance, training and publications

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Organisation / Country** |
|  | David Jeffkins (Chair) | AMSA / Australia |
|  | Ali Al Kabani | AMNAS / OMAN |
|  | Yousef Khalifa Al-Rahbi | AMNAS / OMAN |
|  | Stephen Bennet | IALA |
|  | Michel Cousquer | CETMEF / France |
|  | Nicholas Fady | CETMEF / France |
|  | Adam Hay | NAWAE / Papua New Guinea |
|  | Smail Hidouche | CETMEF / France |
|  | Errol Joppich | Australian Maritime Systems / Australia |
|  | Jean-Charles Leclair | IALA |
|  | Simon Millyard | Trinity House / England & Wales |
|  | Joaquim Pessoa | Portuguese Lighthouse Authority |
|  | Kazuyuki Tanaka | Japan Coast Guard |
|  | Kalina Tchikova | Bulgarian Ports Infrastructure C. |
|  | Jörg Unterderweide | German Waterways & Shipping Administration |
|  | Adrian Wilkins | Pharos Marine |
|  | Shen Zhijiang | China MSA |

1. Light and Vision

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Organisation** |
|  | Michael Card (Chairman) | Zeni Lite Buoy Co. Ltd. / Japan |
|  | Richard Moore (Rapporteur) | Canadian Coast Guard |
|  | Jaffer Abdulla | MENAS / Bahrain |
|  | Yves-Marie Blanchard | CETMEF / France |
|  | Alessio Chianura | Italian Navy |
|  | Johnny Baron de la Cruz | INOCAR / Ecuador |
|  | Peter Dobson | Trinity House / UK |
|  | Frank Herman | Waterways & Shipping Administration / Germany |
|  | Sipke Hoekstra | North Sea Directorate / Netherlands |
|  | Byron Teran Hurtado | INOCAR / Ecuador |
|  | Tamotsu Ikeda | JANA / Japan |
|  | Jin-Gee Jeon | MLTM / Republic of Korea |
|  | Christian Lagerwall | Swedish Maritime Administration |
|  | SAMI Larma | FTA / Finland |
|  | Leif Arne Larsen | Norwegian Coastal Administration |
|  | Jonas Lindberg | Sabik Oy / Finland |
|  | Carmen Martinez | Puertos del Estado / Spain |
|  | Shaheen Mirza | MENAS – Bahrain |
|  | Malcolm Nicholson | GLA R&RNAV / UK |
|  | Roberto Da Pozzo | Italian Navy |
|  | Fernando Romero | Mediterraneo Senales Maritimas / Spain |
|  | Jørgen Royal Petersen | Danish Maritime Authority |
|  | Paulo Mauricio Rego | Brazilian Navy |
|  | Manuel Santos | Direcção de Faróis / Portugal |
|  | Willie Tsanga | National Ports Authority / Cameroon |
|  | Aivar Usk | Cybernetica AS / Estonia |
|  | Moray Waddell | Northern Lighthouse Board / Scotland |
|  | Liang Yang | China MSA |
|  | Josué Youmba | National Ports Authority / Cameroon |

1. List of Input Papers

**All papers are posted on the FTP server – Late papers are now in a Zip file**

Items highlighted are not on the Committee website.

1. Approval of the agenda

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | Presented by: | Posting |
| EEP18/1/1 rev4 | Draft Agenda | Omar Frits Eriksson (OFE) | Late |
| EEP18/1/2 | Programme for EEP17 (this will be issued after the Chairman’s Meeting) | OFE | At metting |

1. Review of action items from last meeting

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | Presented by: | Posting |
| EEP18/2/1 | Review of Action Items from EEP17 | OFE / TCM | 1 |

1. Review of input papers

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | Presented by: | Posting |
| EEP18/3/1 rev5C | List of Input Papers (Finalised at Chairman’s meeting) | OFE/TCM | At meeting |

1. Reports from other bodies

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | Presented by: | Posting |
| EEP18/4/1 | IALA COUNCIL 52nd Session | OFE/TCM | 2 |
| EEP18/4/2 | PAP22 Report | OFE/TCM | 1 |
| EEP18/4/3 | Report of COMSAR16 | OFE/TCM | Late |

1. Reports from rapporteurs

| Number | Title / Author (if required) | Rapporteur | Posting |
| --- | --- | --- | --- |
| EEP18/5/ | Developments in Aids to Navigation (M1\*) | Adrian Wilkins |  |
| EEP18/5/ | Developments in Renewable Energy Sources (M2\*) | Moray Wadell |  |
| EEP18/5/ | Developments in Battery Technology (M3\*) | Wayne Danzik |  |
| EEP18/5/4 | Developments in New Light Sources (M4\*) | Malcolm Nicholson | 3 |
| EEP18/5/ | IALA Certification Process (M5\*) (removed at C52) | Wayne Danzik |  |
| EEP18/5/6 | CIE – IALA Liaison (M6\*) | Malcolm Nicholson | 3 |

1. Presentations

| Number | Title / Author (if required) | Presenter | Posting |
| --- | --- | --- | --- |
| EEP18/6/1 | WWA Brief | Jean-Charles Leclair | 4 |

1. Establish Working Groups
2. Working Group 1 – Aids to navigation design and maintenance
   1. **AtoN Engineering (Task 2\*)**
   2. **Power Systems and Energy Storage** (Task 4\*)
   3. **Remote Control and Monitoring** (Task 5\*)
   4. **Risk Assessment Techniques in AtoN Design and maintenance** (Task 11\*)
   5. **e-Navigation across Committees** (Task 13\*)
   6. **Polar Engineering** (Task 14\*)
   7. Examine the use of Audible Signals as aids to navigation and develop an IALA Guideline on their future (Task 15\*)
   8. **Workshops and Seminars** (Task 16\*)

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | WG | Posting |
| EEP18/8/1 | Response to Plastic buoys questionnaire - Canada | 1 | 1 |
| EEP18/8/2 | Draft Guideline on Hydrostatic Design of Buoys | 1 | 1 |
| EEP18/8/3 | Draft Guideline on Bird Deterrents | 1 | 1 |
| EEP18/8/4 | Plastic Buoy Questionnaire - summary | 1 | 1 |
| EEP18/8/5 | Draft Guideline on the Application of AIS on Buoys | 1 | 1 |
| EEP18/8/6 | Draft Guideline on the Global Sharing of Maritime Data (GSMD) | 1 | 1 |
| EEP18/8/7 | Liaison Note from ANM on Audible Signals | 1 | 1 |
| EEP18/8/8 | Draft Guideline on Audible Signals | 1 | 1 |
| EEP18/8/9 | Liaison Note from ANM on Simulation in the Design of AtoN (see agenda item 11) | 4 | 1 |
| EEP18/8/10 | Draft Guideline on Technical Features and Technology Relevant for Simulation of AtoN (see agenda item 11) | 4 | 1 |
| EEP18/8/11 | Response to Plastic buoy questionnaire - Oman | 1 | 4 |
| EEP18/8/12 | Liaison Note from e-NAV11 - AtoN Information - draft Performance Specification (IHO Registry) | 1 | 5 |
| EEP18/8/13 | Liaison Note from e-NAV11 on AIS and VDE | 1 | 5 |
| EEP18/8/14 | AtoN Metadata Product Specification (IHO Registry) | 1 | 5 |
| EEP18/8/15 | Response to plastic buoys questionnaire - Germany | 1 | 5 |
| EEP18/8/16 | Response to plastic buoys questionnaire - Korea | 1 | Late |
| EEP18/8/17 | S-100 GI Registry (IHO Registry) meeting report | 1 | Late |
| EEP18/8/18 | Liaison note on PS ownership and development | 1 | Late |
| EEP18/11/4 | Draft Guideline on Standard Format for Electronic Exchange of AtoN Product Information | 1 | 1 |
| EEP18/11/5 | SFEEAPI PIF Example | 1 | 1 |
| EEP18/11/6 | SFEEAPI PIF Template | 1 | 1 |
| EEP18/11/7 | Amendment of IALA Rec. E-110 related to EWMB | 1 | 1 |
| EEP18/11/9 | Liaison Note from ANM on off station signals | 1 | 1 |
| EEP18/11/10 | Draft revised Recommendation O-104 | 1 | 1 |

1. Working Group 2 – Heritage and civil engineering
   1. **Heritage and Conservation (Task 9\*)**
   2. **Civil Engineering and Structures (Task 10\*)**
   3. **Workshops and Seminars (Task 16\*)**

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | WG | Posting |
| EEP18/9/1 | Draft Guideline on the Transfer of Redundant Lighthouses | 2 | 1 |
| EEP18/9/2 | History of Floating Aids to Navigation | 2 | 1 |
| EEP18/9/3 | Work Item 9.5.1 Buoy History | 2 | 1 |
| EEP18/9/4 | Work Item 10.1.1 Anti-fouling responses | 2 | 2 |
| EEP18/9/5 | Work Item 10.1.1 Report on Anti Fouling responses | 2 | 2 |
| EEP18/9/6 | Work Item 10.3.1 Guidance on protection and repair of Aid to Navigation Structures in Natural Disaster Areas | 2 | 4 |
| EEP18/9/7 | Work Item 9.2.1 Press Release for Phares Exhibition | 2 | 5 |
| EEP18/9/8 | Work Item 9.5.1 Buoy History II | 2 | 5 |
| EEP18/9/9 | Anti-fouling response - Korea | 2 | Late |
| EEP18/9/10 | Development of an electrochemical anti-fouling system for Buoys in Korea | 2 | Late |

1. Working Group 3 - Environment, quality assurance and publications
   1. Knowledge Sharing / Knowledge Management, taking into account open software system (Task 1\*)
   2. **Environment and safety (Task 6\*)**
   3. **Aids to Navigation Training, IALA WWA (Task 7\*)**
   4. **Product Certification (Task 8\*)** (Removed at C52)
   5. **Quality Management (Task 12\*)**
   6. **Workshops and Seminars (Task 16\*)**

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | WG | Posting |
| EEP18/10/1 | Alternative solution to remove Mercury keeping the existing lens | 3 | 1 |
| EEP18/10/2 | Draft Guideline - Safety Management for ATON Activities | 3 | 1 |
| EEP18/10/3 | Draft revised Guideline 1036 – Green Guide | 3 | 1 |
| EEP18/10/4 | WWA Level 2 Model Course List | 3 | 1 |
| EEP18/10/5 | E-141 Ed1 Standards for Training and Certification of AtoN Personnel Dec2009 | 3 | 1 |
| EEP18/10/6 | Notes of the 5th capacity building meeting | 3 | 1 |
| EEP18/10/7 | Liaison note from ANM17 on Senior Management course | 3 | 1 |
| EEP18/10/8 | Draft Model Course E141-2 Senior Management Training | 3 | 1 |
| EEP18/10/9 | Liaison note to all committees on the NAVGUIDE | 3 | 1 |
| EEP18/10/10 | NAVGUIDE 2014 Timetable | 3 | 1 |
| EEP18/10/11 | NAVGUIDE 2014 Action Plan | 3 | 1 |
| EEP18/10/12 | NAVGUIDE input on Service Delivery | 3 | 1 |
| EEP18/10/13 | Draft revised Guideline 1052 – QMS for AtoN service | 3 | 3 |
| EEP18/10/14 | Liaison Note from e-NAV11 on WWA AtoN Training | 3 | 5 |
| EEP18/10/15 | Example of Standard Safety Procedure | 3 | 5 |
| EEP18/10/16 | Example of Discontinuance Criteria | 3 | 5 |
| EEP18/10/17 | Safety check sheet | 3 | 5 |
| EEP18/10/18 | Draft Guideline on Safety Manual | 3 | 5 |
| EEP18/10/19 | Domestic Water Management Risk Assessment & log book | 3 | 5 |
| EEP18/10/20 | IALA Model Course on Mercury Rotating Optics - Technicians Level 2 | 3 | 5 |
| EEP18/10/21 | Guideline on Safety Manual at AtoN Maintenance Work of Japan Coast Guard | 3 | 5 |
| EEP18/10/22 | Management and use of Water Standard Operating Procedure | 3 | 5 |
| EEP18/10/23 | Quality Recommendation O-132 | 3 | 5 |
| EEP18/10/24 | NAVGUIDE review of sections 3.1 and 3. | 3 | 5 |

1. Working Group 4 - Light and vision
   1. **Engineering – Visual Aids (Task 2\*)**
   2. **Visual perception of lights and daymarks (Task 3\*)**
   3. **Workshops and Seminars (Task 16\*)**

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | WG | Posting |
| EEP18/11/1 | Light & Vision document ownership | 4 | 1 |
| EEP18/11/2 | Revision of Recommendation E-108 | 4 | 1 |
| EEP18/11/3 | Draft Guideline on Daymarks for AtoN | 4 | 1 |
| EEP18/11/3 rev1 | Draft Guideline on Daymarks for AtoN | 4 | At meeting |
| EEP18/11/4 | Draft Guideline on Standard Format for Electronic Exchange of AtoN Product Information (See agenda item 8) | 4 | 1 |
| EEP18/11/5 | SFEEAPI PIF Example (See agenda item 8) | 4 | 1 |
| EEP18/11/6 | SFEEAPI PIF Template (See agenda item 8) | 4 | 1 |
| EEP18/11/7 | Amendment of IALA Rec. E-110 related to EWMB (See agenda item 8) | 4 | 1 |
| EEP18/11/8 | Liaison Note from ANM on Daymarks | 4 | 1 |
| EEP18/11/9 | Liaison Note from ANM on off station signals (See agenda item 8) | 1 | 1 |
| EEP18/11/10 | Draft revised Recommendation O-104 (See agenda item 8) | 4 | 1 |
| EEP18/11/11 | Guidance on Focal Plane Height | 4 | 2 |
| EEP18/11/12 | WG4 Document Review | 4 | 2 |
| EEP18/11/13 | Results of surface colour measurement and amendments to E-108 | 4 | 2 |
| EEP18/11/14 | Amendment to Guideline 1041 on Sector Lights | 4 | 5 |
| EEP18/8/9 | Liaison Note from ANM on Simulation in the Design of AtoN | 4 | 1 |
| EEP18/8/10 | Draft Guideline on Technical Features and Technology Relevant for Simulation of AtoN | 4 | 1 |

1. Future Work Programme
2. Review of output and working papers
3. Any Other Business

|  |  |  |  |
| --- | --- | --- | --- |
| Number | Title / Author (if required) | WG | Posting |
| EEP18/14/1 | Request from video company | All | At meeting |

**Information Papers**

|  |  |  |
| --- | --- | --- |
| **Number** | **Title / Author (if required)** | **Posting** |
| EEP18/INF/1 | Meeting dates 2012 - 2014 post 52nd session of the IALA Council | 2 |
| EEP18/INF/2 | Liaison Note to IHO on Applications to Participate in the IHO Registry | 5 |
| EEP18/INF/3 | IALA Bulletin article (1971) – Daymarks | At meeting |

1. Date and venue of next meeting
2. Review of session report
3. List of Output and Working Papers

Output documents are submitted for review by a body other than the Committee initiating the document.

| Number | Title | Status |
| --- | --- | --- |
| EEP18/output/1 | Draft Report of EEP18 | To Council to note |
| EEP18/output/2 | Liaison Note to e-NAV on EEP contribution to e-Navigation | To e-NAV12 |
| EEP18/output/3 | Draft Guideline on Bird Deterrents | To Council to approve |
| EEP18/output/4 | Liaison Note to ANM on Audible Signals | To ANM18 |
| EEP18/output/5 | Liaison Note to ANM on Off Station Signals | To ANM18 |
| EEP18/output/6 | Revised Draft Recommendation O-104 | To ANM18 |
| EEP18/output/7 | Liaison Note to ANM on Simulation in the Design of AtoN (Duplicates EEP18/output/9) | To ANM18 |
| EEP18/output/8 | Revised Recommendation E-110 for the Rhythmic Characters of Lights on AtoN | To Council to approve |
| EEP18/output/9 | Liaison Note from EEP to ANM Committee on Simulation in the Design of AtoN | To ANM18 |
| EEP18/output/10 | IALA Model Course Mercury Rotating Optics - Technician Level 2 | To WWA to approve |
| EEP18/output/11 | Liaison Note to ANM on the NAVGUIDE Updates | To ANM18 |
| EEP18/output/12 | Revised NAVGUIDE input on sections 3.1 and 3.2 | To ANM18 |
| EEP18/output/13 | Revised NAVGUIDE input on Service Delivery | To ANM18 |
| EEP18/output/14 | Revised NAVGUIDE input on Preservation of Historic Aids to Navigation | To ANM18 |
| EEP18/output/15 | Liaison Note to ANM - Review of Guideline 1052 | To ANM18 |
| EEP18/output/16 | Revised IALA Guideline 1052\_QMS for AtoN Service Delivery | To ANM18 |
| EEP18/output/17 | Liaison Note to ANM - Review of Recommendation O-132 | To ANM18 |
| EEP18/output/18 | Revised IALA Recommendation O-132 on Quality Management | To ANM18 |
| EEP18/output/19 | Liaison Note from to WWA and e-NAV on Training Requirements | To WWA & e-NAV12 |
| EEP18/output/20 | Draft revised E-141 on Standards for Training and Certification of AtoN Personnel | To WWA to approve |
| EEP18/output/21 | IALA WWA Courses Technician Level 2 Overview | To WWA to approve |
| EEP18/output/22 | Draft Guideline on Standard Format for Electronic Exchange of AtoN Product Information | To Council for approval |
| EEP18/output/23 | Liaison note to ANM on AtoN Metadata Product Specification | To ANM18 |
| EEP18/output/24 | AtoN Metadata Product Specification - Review | To ANM18 & e-NAV12 |

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

| Number | Title | Status |
| --- | --- | --- |
| EEP18/WG1/WP1 | Draft revised Guideline 1012 | To EEP19 |
| EEP18/WG1/WP2 | Draft Guideline on the Application of AIS on Buoys | To EEP19 |
| EEP18/WG1/WP3 | Plastic Buoy Questionnaire - summary | To EEP19 |
| EEP18/WG1/WP4 | Draft Guideline on Hydrostatic Buoy Design. | To EEP19 |
| EEP18/WG1/WP5 | AtoN Metadata Product Specification Review | To EEP19 |
|  |  |  |
| EEP18/WG2/WP1 | Draft Guideline on the Transfer of Redundant Lighthouses | To EEP19 |
| EEP18/WG2/WP2 | History of Floating Aids to Navigation | To EEP19 |
| EEP18/WG2/WP3 | Buoy History | To EEP19 |
| EEP18/WG2/WP4 | Buoy History - van Wallenburgh | To EEP19 |
| EEP18/WG2/WP5 | Athens Meeting minutes -15 April 2012 | To EEP19 |
| EEP18/WG2/WP6 | Revised Preservation of Historic Aids to Navigation – NAVGUIDE (now part of EEP18/output/) | To EEP19 |
| EEP18/WG2/WP7 | Anti-fouling responses Floating Aids | To EEP19 |
| EEP18/WG2/WP8 | Anti-fouling responses slipways - jetties | To EEP19 |
|  |  |  |
| EEP18/WG3/WP1 | Draft Guideline - Safety Management for AtoN Activities | To EEP19 |
| EEP18/WG3/WP2 | IALA Green Guide (review) | To EEP19 |
| EEP18/WG3/WP3 | Draft IALA Model Course on surface preparation - Technicians Level 2 | To EEP19 |
| EEP18/WG3/WP4 | Key Performance Indicators | To EEP19 |
| EEP18/WG3/WP5 | Management and safe handling of mercury | To EEP19 |
|  |  |  |
| EEP18/WG4/WP1 | Visual Signalling Documents | To EEP19 |
| EEP17/WG4/WP2 | Draft Guideline on Daymarks for AtoN | To EEP19 |
| EEP18/WG4/WP3 | NAVGUIDE review of sections 3.1 and 3.2 | To EEP19 |

1. Action Items

Action Items for the IALA Secretariat

1. The Secretary-General is requested to seek confirmation from the Council of David Jeffkins as the Vice Chairman of the EEP Committee 5
2. The Secretariat is requested to forward EEP18/WG1/WP1 to EEP19. 11
3. The Secretariat is requested to forward the liaison note on the Effect of e-Navigation on conventional AtoN (EEP18/output/2) to e-NAV12. 11
4. The Secretariat is requested to forward the draft Guideline on Bird Deterrents (EEP18/output/3) to the IALA Council for approval. 12
5. The Secretariat is requested to forward liaison note on the use of audible signals (EEP18/output/4) to ANM18. 13
6. The Secretariat is requested to forward EEP17/output/2 – Use of Plastic Buoys to the Brest Workshop. 13
7. The Secretariat is requested to forward EEP18/WG1/WP4 – Buoy Design Hydrostatics to the Brest Workshop. 13
8. The Secretariat is requested to forward EEP18/WG1/WP2 – AIS on Buoys to the Brest Workshop. 13
9. The Secretariat is requested to forward the liaison note on Off Station Signals (EEP18/output/5) to ANM18. 14
10. The Secretariat is requested to forward the track changes version of revised Recommendation O-104 (EEP18/output/6) to ANM18. 14
11. The Secretariat is requested to forward the Liaison Note on AtoN Metadata Product Specification (EEP18/output/23) to ANM18. 14
12. The secretariat is requested to forward new Guideline and XML schema for AtoN product data exchange (EEP18/output /22) to Council for approval. 14
13. When available, the Secretariat is requested to forward the revised EEP18/WG2/WP1 to EEP19. 15
14. The Secretariat is requested to forward EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4 to EEP19. 16
15. When possible, the Secretariat is requested to investigate means of providing a Heritage web page on the main IALA website for review at EEP19. 18
16. The Secretariat is requested to consider a method of incorporating the Historic Lighthouse Database into the Heritage webpage and to submit this as an input paper to EEP19. 18
17. The Secretariat is requested to forward EEP18/WG2/WP5 to EEP19. 19
18. The Secretariat is requested to forward EEP18/9/10 to EEP19. 19
19. Jean-Charles Leclair is requested to establish a contact with a representative on the United Nations ad hoc working group on mercury. 22
20. The Secretariat is requested to forward the information provided by Trinity House (EEP18/WG3/WP5) to EEP19. 22
21. The Secretariat is requested to forward EEP18/WG3/WP1 (draft Guideline on Safety Management for AtoN Activities) to EEP19. 23
22. The Secretariat is requested to forward EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering) to EEP19. 24
23. The Academy is requested to liaise with the VTS Committee regarding the proposed new document numbering system. 24
24. The Academy is requested to liaise with the e-NAV Committee regarding the precise details of the changes to Module 9 (EEP18/output/19) before forwarding it to the WWA Board for approval. 24
25. The Secretariat is requested to forward EEP18/output/20 (E141 Standards for Training and Certification of AtoN Personnel) to the Academy for approval and, if approved, the Council for endorsement. 25
26. The Secretariat is requested to forward EEP18/output/21 (E141.Level2.Tech.0 Model Course overview on Level 2 Technician Training) to the Academy for approval. 26
27. The Secretariat is requested to forward EEP18/output/10 (Level 2 Model Course on Mercury Rotating Optics) to the Academy for approval. 26
28. The Secretariat is requested to forward EEP18/WG3/WP3 (Level 2 model course on surface preparation) to EEP19. 26
29. The Academy is requested to develop courses for 1.1 IALA and the NAVGUIDE, 1.2 The IALA Maritime Buoyage System, 1.3 Introduction to AtoN lights on buoys, 1.4 Introduction to other AtoN fitted to buoys and 6.1 Introduction to service craft. 26
30. The Academy is requested to develop courses in consultation with the e-NAV Committee on 9.1 Introduction to Radionavigation Systems, 9.2 Position, Navigation and Timing (PNT) and 9.3 Accuracy, integrity, continuity, availability and vulnerability. 26
31. The Secretariat is requested to forward Liaison Note EEP18/output/17 (Review of Recommendation O-132 quality management for aids to navigation authorities) to the ANM Committee. 27
32. The Secretariat is requested to forward the track changes version of Recommendation O-132 (EEP18/output/18) to the ANM Committee. 27
33. The Secretariat is requested to forward Liaison Note EEP18/output/15 (Review of Guideline 1052 on quality management in aids to navigation service delivery) to the ANM Committee. 28
34. The Secretariat is requested to forward the track changes copy of Guideline 1052 (EEP/output/16) to the ANM Committee. 28
35. The Secretariat is requested to forward Liaison note on NAVGUIDE updates (EEP18/output/11) to the ANM Committee. 28
36. The Secretariat is requested to forward comments on sections 3.1 and 3,2 of the NAVGUIDE (EEP18/output/12) to the ANM Committee. 28
37. The Secretariat is requested to forward comments on Service delivery (EEP18/output/13) to the ANM Committee. 28
38. The Secretariat is requested to forward comments on Preservation of Historic Aids to Navigation (EEP18/output/14) to the ANM Committee. 28
39. The Secretariat is requested to forward working paper EEP18/WG3/WP4 (Australia and Papua New Guinea) to EEP19. 28
40. The Secretariat is requested to forward Recommendation E-110 (EEP18/output/8) to Council for approval. 29
41. The Secretariat is requested to remove the O-133 from the list of Publications on the IALA Website. 29
42. The Secretariat is requested to forward Liaison note on the use of simulation in the design of AtoN systems (EEP18/output/9) to ANM18. 29
43. The Secretariat is requested to forward EEP18/11/12 to EEP19. 30
44. The Secretariat is requested to make EEP15/11/5 from the Japan Coast Guard available on the IALA Wiki site. 31
45. The Secretariat is requested to forward the Liaison note on Simulation in the design of Aton (EEP18/output/7) to ANM18. 31
46. The Secretariat is requested to forward the EEP18 Committee report (EEP18/output/1) to Council to note. 33

Action Items for Members

1. Leif Arne Larsen is requested to advise the Committee of the type of battery beig used in its AtoN project at EEP19. 10
2. EEP Committee members are requested to review the draft guideline on lightning protection (EEP18/WG1/WP1) and pass comment to Peter Dobson before EEP19. 11
3. WG1 members are requested to continue to review the draft guideline inter-sessionally, providing input to Simon Millyard by 31 August 2012, with a view to reviewing the final content at the Brest workshop. 11
4. Simon Millyard is requested to provide an updated version of EEP18/WG1/WP2 for the Brest workshop, via the Secretariat. 11
5. EEP Committee Members who have not yet responded to the questionnaire are requested to complete the revised questionnaire, Plastic Buoy Questionnaire (EEP17/output/2) and forward it to Sipke Hoekstra by 31 August 2012. 12
6. Sipke Hoekstra is requested to provide an updated version of the Plastic Buoy Questionnaire Summary (EEP18/WG1/WP3) for the Brest workshop, via the Secretariat. 12
7. Phillipe Renaudin, Jorge Unterderweide, Sipke Hoekstra & Adrian Wilkins are requested to complete necessary revisions to EEP18/WG1/WP4 by 31 August 2012. 12
8. EEP Committee members are requested to review EEP18/WG1/WP4 and comment to Adrian Wilkins by 31 August 2012. 12
9. Adrian Wilkins is requested to forward a revised version of EEP18/WG1/WP4 to the Brest Workshop, via the Secretariat. 12
10. Simon Millyard is requested to provide an **outline** document on Risk Assessment Techniques in AtoN Design and Maintenance for EEP19. 13
11. EEP Committee members are requested to provide input or reference material on polar engineering for review at EEP19. 13
12. WG2 members are requested to consider how the existing IALA Lighthouse Conservation Manual should be amended to take account of recent Guidelines and the new work of the group. 15
13. Christian Lagerwall is requested to incorporate agreed changes to the draft guideline on the Management of Surplus Lighthouse Property (EEP18/WG2/WP1) and to reissue it, inter-sessionally, to committee members for further comment. 15
14. Committee members are requested to respond to the revised draft Guideline on the Management of Surplus Lighthouse Property with details of methods and examples of disposal within their organisation to Christian Lagerwall by 31 August 2012. 15
15. Christian Lagerwall is requested to include comments from members and submit a revised draft Guideline on the Management of Surplus Lighthouse Property as an input paper to EEP19. 15
16. Bob McIntosh is requested to complete draft case study reports on Nakkehoved and Cabo Mayor Lighthouses and circulate these reports to WG2 members for comment. 16
17. WG2 members are requested to respond to the draft case study reports on Nakkehoved and Cabo Mayor Lighthouses to Bob McIntosh prior to EEP19. 16
18. Bob McIntosh is requested to include the comments from members and submit revised draft case study reports on Nakkehoved and Cabo Mayor Lighthouses to EEP19. 16
19. Committee Members are encouraged to read Adrian Wilkins papers on The History of Floating AtoN (EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4) and are requested to provide Adrian Wilkins or Bob McIntosh with any information or sources of information on the History of Floating Aids to Navigation before EEP19. 16
20. Adrian Wilkins is requested to include any additional information received in The History of Floating AtoN including combining EEP18/WG2/WP2, EEP18/WG2/WP3 & EEP18/WG2/WP4 and to submit it as an input paper to EEP19. 16
21. Jo van der Eynden is requested to review the questionnaire on Complementary Uses of Historic Lighthouses and seek further comment from WG2 members. 17
22. Jo van der Eynden is requested to submit a revised questionnaire on Complementary Uses of Historic Lighthouses to EEP19 17
23. WG2 members are requested to consider topics for future articles to be included in the IALA Bulletin within ‘The Lighthouse Preservation Corner’ and to provide these to Bob McIntosh. 17
24. Bob McIntosh is requested to meet editorial deadlines to ensure that articles are available for each edition of the IALA Bulletin wherever possible by passing suitable articles to the editor for inclusion in ‘The Lighthouse Preservation Corner’. 17
25. Committee members are requested to submit any information they or their authorities have on preserved lighthouse tenders and light vessels to Bob McIntosh or Paul Ridgway. 18
26. Bob McIntosh is requested to continue to monitor the list of people who indicated an interest in Heritage and Conservation of Historic Lighthouses, to ensure that they are updated on developments. 18
27. WG2 members are requested to consider topics and speakers for presentations at the seminar, to consider those who should be invited and encouraged to attend, and to submit this to Bob McIntosh as soon as possible. 19
28. Bob McIntosh is requested to collate responses in relation to Seminar topics and speakers and to circulate this to Steering Committee members. 19
29. If a suitable time can be identified, Bob McIntosh is requested to arrange a date for the steering group to visit Athens in September. 19
30. Bob McIntosh and IALA Secretariat are requested to agree a draft budget and the brochure template and to send it to Chiotis Panos, Greek Lighthouse Service 19
31. Chiotis Panos is requested to complete the draft budget and contribute to the brochure template to return it to Bob McIntosh to allow the Seminar budget to be finalised. 19
32. WG1 are requested to take EEP18/WG2/WP7 Anti-fouling responses for Floating Aids for further work on the guideline on anti-fouling techniques (marine growth) for floating aids. 19
33. Bob McIntosh is requested to provide a revised version of EEP18/WG2/WP7 on Anti-fouling responses for Floating Aids for EEP19. 19
34. Bob McIntosh is requested to publish the remaining information EEP18/WG2/WP8 on Anti-fouling in relation to slipways, jetties etc. on the IALA Wiki site. 19
35. Committee members are requested to provide information on building maintenance and conditioning in low energy environments within their authorities or to provide contact details for an individual who may be able to provide this information to Bob McIntosh. 20
36. WG2 members are requested to consider options for developing this guideline when additional information becomes available. 20
37. Nicolas Fady is encouraged to consider submitting information on the CETMEF experiences of building maintenance and conditioning in the low power environment once this becomes available. 20
38. Bob McIntosh is requested to continue to monitor the impact of Natural Disasters on Historic Lighthouses in particular and how the authorities have reacted to the problems. 20
39. EEP Committee members are requested to submit examples of their building maintenance specifications to Bob McIntosh or as input to EEP 19. 21
40. David Jeffkins is requested to develop procedures in consultation with Omar Frits Eriksson for adding and updating content to the IALAWIKI and forward as input to EEP19. 21
41. Committee members are requested to review the IALAWIKI website (http://www.ialathree.org/ialawiki) and submit relevant information inclusion in the IALAWIKI as input to EEP19. 21
42. Committee members are requested to submit methodologies they currently use to evaluate the carbon footprint of their AtoN activities and initiatives that they have implemented to reduce emissions and submit as input to EEP19. 22
43. Simon Millyard is requested to provide a copy of the revised Trinity House documentation on the management of potable water on lighthouse estates once completed and submit to EEP19 if available. 23
44. Adam Hay is requested to finalise the draft Guideline on Safety Management for AtoN Activities and submit as input to EEP19. 23
45. Committee members are requested to review EEP18/WG3/WP1 on draft Guideline on Safety Management for AtoN activities and provide comments to Adam Hay for inclusion in the final version of the document. 23
46. Adam Hay is requested to provide a revised version of EEP18/WG3/WP1 for input to EEP19. 23
47. Committee members are requested to review EEP18/WG3/WP2 (draft revised Guideline 1036 environmental consideration in aids to navigation engineering) and provide comments to Adam Hay. 24
48. Ali Al Kalbani is requested to develop courses for 1.5 Buoy handling and safe working practices and 1.8 Buoy cleaning. 26
49. Simon Millyard is requested to develop courses for 1.12 Maintenance of plastic buoys, 1.13 Maintenance of steel buoys, 1.14 Introduction to power sources on buoys, 2.5 Mains AC power systems and 2.7 lightning protection. 26
50. Errol Joppich is requested to develop courses for 3.1 Light and range – General, 3.2 Light sources and 3.3 Colour of marine lanterns. 26
51. Adrian Wilkins is requested to develop courses for 3.8 Focal height; alignment and classical lenses, 5.1 Introduction to coatings and specifications, 5.2 Surface preparation, 5.3 Application of coatings and 5.4 Testing and quality control. 26
52. David Jeffkins and Errol Joppich are requested to develop courses on 7.1 Introduction to Racons and their configuration and 7.2 Testing and quality control. 26
53. Simon Millyard and David Jeffkins are requested to develop courses on 8.1 AIS – principles of operation, 8.2 AIS base station, 8.3 AIS AtoN and repeaters, 8.4 Installation; configuration; MMSI and slot management and 8.5 Maintenance and testing of AIS units. 26
54. Committee members are requested to co-ordinate the development of additional Level 2 technician Model Courses with Stephen Bennett (Stephen.Bennett@iala-aism.org). 26
55. Committee members are requested to develop content for a new guideline on procurement of AtoN equipment and submit as input to EEP19. 27
56. Committee members are requested to review relevant sections of the NAVGUIDE and provide comments on any proposed changes and new graphical material e.g. photos, illustrations etc. as input to EEP19. 28
57. Committee members are requested to provide comments or suggestions for key performance indicators for AtoN activities and submit as input to EEP19. 29
58. All EEP members are requested to provide their comments on EEP18/WG4/WP1 by e-mail to Michael Card. 30
59. Michael Card is requested to provide a revised version of EEP18/WG4/WP1 as an input document for EEP19. 30
60. Malcolm Nicholson is requested to insert the content of EEP18/11/14 into Guideline 1041 and include additional inputs from Cybernetica (Aivar Usk) and Germany. 30
61. Aivar Usk and Frank Hermann are requested to provide input to Malcolm Nicholson inter-sessionnally. 30
62. Members of WG4 are asked to review Guideline 1041 and provide comments to Malcolm Nicholson prior to EEP19. 30
63. Malcolm Nicholson is also requested to submit a revised version of Guideline 1041 as an input to EEP19. 30
64. All EEP members are requested to provide their comments on the new Guideline on Design of Daymarks (EEP18/WG4/WP2) to Frank Hermann prior to the Brest Workshop. 30
65. Frank Hermann is requested to lead the inter-sessional working group and provide an input paper on the new Guideline on Design of Daymarks for review during the Brest Workshop, via the Secretariat. 30
66. Malcolm Nicholson and Frank Hermann are requested to work inter-sessionally and submit a proposed revised version of Recommendation E-108 for final review at EEP19. 31
67. EEP Members from Korea, Japan and Norway are requested to provide input papers for updating Guideline 1061 for EEP19. 31
68. WG members are requested to keep the Committee informed of any future developments. 31
69. The Committee members are requested to consider items for inclusion in the 2014 – 2018 work programme in order to contribute to a ‘brainstorming’ session at EEP19. 32
70. EEP Committee members interested in the video project are requested to contact Maryline Holluigue. 32
71. The Chairman and Vice Chairman are requested to draft an e-mail about the use of the IALA Wiki sites, for distribution to all EEP Committee members. 32
72. Work Programme

**EEP Committee Work Programme (2010 – 2014)**

**Approved by the IALA Council – June 2011**

(Changes made/suggested at EEP18 are highlighted in yellow)

In the work of the Committee, the following general aspects are to be taken into consideration:

* Strategic focus of IALA;
* Harmonized use of Definitions and Terms;
* Work Programme 2010 – 2014.

| Task | Estimated number of sessions | Comments | Strategy element(s) |
| --- | --- | --- | --- |
| 1. Knowledge Sharing / Knowledge Management, taking into account open source software. | 4 |  | 3.4, 4.11, 5.2, 8.1, 10.3, 10.9, 13.3, 7.1 |
| 1. AtoN Engineering. | 7 | Workshop 2012 | 1.2, 5.2, 5.6, 5.8, 6.1, 10.3, 10.5, 10.11, 12.1, 13.1, 13.2, 13.6 |
| 1. Visual perception of lights and daymarks. | 7 |  | 1.2, 3.4, 5.1, 5.4, 5.6, 5.8, 8.1, 10.2, 10.10, 13.6, 15.1 |
| 1. Power Systems and Energy Storage. | 3 |  | 5.6, 5.8 |
| 1. Remote Control and Monitoring. | 3 |  | 5.6 |
| 1. Environment and safety. | 5 |  | 5.1, 10.6, 10.12, 10.13, 14.1 |
| 1. Aids to Navigation Training, IALA WWA. | 7 | Seminar 2013 | 1.2, 3.4, 3.5, 5.3, 5.6, 18.1 |
| 1. Product Procurement. | 7 |  | 10.9, 13.3, 17.1 |
| 1. Heritage and Conservation. | 7 | Seminar 2013 | 10.6, 10.8, 13.1, 13.6 |
| 1. Civil Engineering and Structures. | 5 |  | 5.1, 10.6, 10.8, 12.1, 13.1 |
| 1. Risk Assessment Techniques in AtoN Design and maintenance. | 4 | Annual seminar | 3.5, 5.6, 10.7 |
| 1. Quality Management. | 4 |  | 6.1, 6.2, 6.3, 7.1, 10.8 |
| 1. e-Navigation across Committees. | 7 |  | 5.7, 5.8, 10.5, 13.1, 13.2 |
| 1. Polar Engineering | 4 | Workshop 2013, with other Committees | 3.5, 5.7, 11.1, 11.2, 11.3 |
| 1. The use of Audible Signals as aids to navigation. | 2 – 4 | *Together with the ANM Committee.* | 5.4, 5.6 |
| 1. Workshops and Seminars**.** | 7 |  | 3.5, 6.1 |

Monitoring Items

|  |  |  |  |
| --- | --- | --- | --- |
| Task | Duration | Comment | Strategy element(s) |
| M1 Developments in Aids to Navigation | Continuous | Adrian Wilkins | 1.2, 5.6, 8.1 |
| M2 Developments in Renewable Energy Sources | Continuous | Moray Waddell | 1.2, 8.1 |
| M3 Developments in Battery Technology | Continuous | Wayne Danzik | 1.2, 8.1 |
| M4 Developments in New Light Sources | Continuous | Malcolm Nicholson | 1.2, 3.2, 8.1, 10.10 |
| M5 IALA Certification Process | Continuous | Wayne Danzik | 10.9, 13.3 |
| M6 CIE-IALA Liaison | Continuous | Malcolm Nicholson | 1.2, 5.6, 5.8, 8.1, 10.2, 10.10, 15.1 |

Deferred Items

|  |  |  |  |
| --- | --- | --- | --- |
| Task | No. of sessions | Comment | Strategy element(s) |
| D1 None at this time |  |  |  |

1. Detailed EEP Work Programme 2010-1014

This list is not in any order of priority

1. Knowledge Sharing / Knowledge Management

Develop procedures for informal sharing of information between members. IALA Reference Library. Develop and populate the IALAWIKI with information on Aids to Navigation (AtoN) not included in official IALA documents.

1. Engineering – Visual Aids

Provide guidance on vertical divergence of lights, focal plane height, sector lights, daymark design, surface colours, buoy design tools (SW), buoy motion and stability and AtoN maintenance procedures. Guidance on synthetic moorings and optimising mooring design. Consider how to deal with calculation of availability of a system of synchronised lights in the case of a failure of one element. Guidance on mitigating the adverse effect of Sea Bird colonies at AtoN stations and structures.

1. Visual Perception of lights and daymarks

Provide guidance on apparent intensity, probability of detection of visual aids, human perception of flickering light, conspicuity of lights and conspicuity of daymarks. Gather conspicuity visual signalling documents in a suite of documents. CIE Reporteur with respect to Conspicuity of Lights.

1. Power Systems and Energy Storage

Provide guidance on Hybrid power systems, sustainable energy systems, batteries, emerging energy storage systems.

1. Remote Control and Monitoring

Provide guidance on Remote Control and Monitoring (RCM) in the e-Navigation architecture, RCM strategies and harmonised protocols.

1. Environment and safety

Provide guidance on methods for determining and reducing carbon footprint of AtoN services, handling of mercury in lighthouses, worker safety, treating legionella and coli bacteria in water supplies of unmanned stations. Consequences of global warming in terms of storm events and sea level rising on AtoN provision and maintenance. Update the IALA Green Guide.

1. Aids to Navigation Training, IALA WWA

Assist in developing the World Wide Academy, e-training.

1. Product Certification

Continue to support the IALA certification scheme. Maintain and develop product certification templates. Consider developing an IALA Product Guide.

1. Heritage and Conservation

Maintain the IALA Lighthouse Conservation Manual. Give guidance on the process of transferring redundant lighthouses including site remediation. Selection and display of historic artefacts. Report on case studies. Document history of floating AtoN. Promote an international network for historic lighthouses.

1. Civil Engineering and Structures

Revise Lighthouse Maintenance Guidance, give guidance on anti-fouling techniques (marine growth) for floating aids, boat landings, etc., building maintenance and conditioning in low energy environments, low power ventilation systems, avoiding condensation and engineering for natural disasters. AtoN structures in natural disaster areas.

1. Risk Assessment Techniques in AtoN Design and Maintenance

Provide guidance on risk management as an integral part of the provision of aids to navigation services. Framework for determining Total Cost of Ownership of AtoN equipment and systems, investment priorities. Assist in developing the IALA Risk Management Toolbox and ensure that the methods used are standardized and widely accepted.

1. Quality Management

Provide guidance on Quality management in Aids to Navigation Engineering, quality assurance of Aids to Navigation services, further work on Key performance indicators.

1. e-Navigation across Committees

Develop EEP role in engineering, human factors, system reliability and RCM aspects of e-Navigation. Requirements for physical AtoN in the e-Navigation world. Interfacing visual AtoN to e-Navigation. AIS on AtoN, using binary messages for monitoring AtoN operational status. Modulation of light sources to produce automatic identification and RCM.

1. Polar Engineering

Provide guidance on the design of AtoN systems, including aspects of e-Navigation, suitable for the Arctic environment, supporting the opening of new routes in polar waters.

1. **The use of Audible Signals as Aids to Navigation**

Examine the use of Audible Signals as aids to navigation and develop an IALA Guideline on their future. This work will be conducted in conjunction with the ANM Committee.

1. Workshops and Seminar
2. Seminar on IALA Risk Management Toolbox, with marine incident causation – Annually - IALA
3. Seminar on Model training courses covering different AtoN systems and services (EEP) Promotion of the World Wide Academy - 2013 (WG3)
4. Workshop – Fixed and Floating AtoN (incorporates IALABATT/IALALITE and Floataid) – France – 2012 (WG4)
5. Seminar on Preservation of Lighthouse Heritage, Athens June 2013 Conservation and Civil Engineering aspects 2013, in conjunction with an EEP meeting – UK / Norway / Greece (WG2)
6. Workshop on Arctic engineering aspects (civil engineering, power systems, environment) - 2013 (WG1)
7. Workshop on Practical aspects of installing e-Navigation infrastructure (future WP?) (WG1)

**DETAILED WORK PROGRAMME (AS UPDATED AT EEP18)**

WG1 – AtoN Infrastructure Design and Maintenance - Chairman: A. Wilkins

| **Task No** | **Task** | **Obj No** | **Objective** | **Activity No** | **Details of work to be undertaken** | **Expected completion** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | AtoN Engineering | 2.1 | Provide guidance on buoy design tools (SW), buoy motion and stability and AtoN maintenance procedures. | 2.1.1 | Update Guidelines 1006, 1047 regarding recent experience with plastic buoys and associated cost implications. | EEP19 |  |
| 2.1.2 | Revision of Guideline 1012 on lightning protection, to include the disposal of radioactive lightning conductors. | EEP19 |  |
| 2.1.3 | A new Guideline on the ‘Practical Aspects of Installing AIS AtoN on Buoys and Beacons’ | EEP21 |  |
| 2.1.4 | A new Guideline on the Hydrostatic Design of Buoys as an AtoN Platform | EEP20 |  |
| 2.2 | Guidance on synthetic moorings and optimising mooring design. | 2.2.1 | Update Guideline 1066 regarding recent experience with synthetic moorings and associated cost implications. | EEP19 |  |
| 2.3 | Consider how to deal with calculation of availability of a system of synchronised lights in the case of a failure of one element. | 2.3.1 | Liaise with ANM regarding the availability of synchronised light channels and Revise Guideline 1069 Synchronisation of Lights | EEP17 | Completed at EEP17 |
| 2.4 | Guidance on mitigating the adverse effect of Sea Bird colonies at AtoN stations and structures | 2.4.1 | Prepare a new Guideline on Bird Deterrence | EEP19 |  |
| 4 | Power Systems and Energy Storage | 4.1 | Provide guidance on Hybrid power systems, sustainable energy systems, batteries, emerging energy storage systems | 4.1.1 | Revise Guideline 1067-3 Electrical Energy Storage | EEP17 | Completed at EEP16. |
| 5 | Remote Control and Monitoring | 5.1 | Provide guidance on Remote Control and Monitoring (RCM) in the e-Navigation architecture, RCM strategies and harmonised protocols. | 5.1.1 | Liaise with e-NAV regarding the engineering content of A-126 | EEP~~20~~21 |  |
| 11 | Risk Assessment Techniques in AtoN Design and Maintenance | 11.1 | Provide guidance on risk management as an integral part of the provision of aids to navigation services. | 11.1.1 | Develop new Guideline on risk assessment techniques in AtoN design and maintenance. | EEP~~19~~20 |  |
| 11.2 | Assist in developing the IALA Risk Management Toolbox and ensure that the methods used are standardized and widely accepted. | 11.2.1 | Assist in developing the IALA Risk Management Toolbox and ensure that the methods used are standardized and widely accepted. | EEP21 |  |
| 12 | Quality Management | 12.3 | Update relevant sections of NAVGUIDE | 12.3.1 | Review and update NAVGUIDE Sections 3.2, 4.23, 6.5.4, 6.7, Chapter 7, 8.4 | EEP20 | Co-ordinated by WG3 |
| 13 | e-Navigation across Committees | 13.1 | Develop EEP role in engineering, human factors, system reliability and RCM aspects of e-Navigation. | 13.1.1 | Identify and provide guidance on engineering, human factors, system reliability and RCM aspects of e-Navigation | EEP~~18~~20 |  |
| 13.2 | Requirements for physical AtoN in the e-Navigation world. Interfacing visual AtoN to e-Navigation. | 13.2.1 | Identify requirements and interfaces for physical AtoN in the e-Navigation world. | EEP~~19~~20 |  |
| 13.3 | ~~AIS on AtoN, using binary messages for monitoring AtoN operational status.~~  Provide input to the development of the S100 AtoN Registry | 13.3.1 | ~~Update Recommendation A-126 to incorporate any relevant engineering information.~~  Liaise with eNAV regarding the development of the S100 AtoN Registry | EEP20 | Original activity removed as it is covered under activity 5.1.1 |
|  |  | 13.4 | Develop standard format for the exchange of AtoN product information | 13.4.1 | Develop new Guideline and XML schema for AtoN product data | EEP19 | Moved from WG3 |
| 14 | Polar Engineering | 14.1 | Produce new Guidelines on the engineering aspects of AtoN in Polar regions | 14.1.1 | Produce new Guidelines on the engineering aspects of AtoN in Polar regions | EEP21 |  |
| 15 | The use of Audible Signals as Aids to Navigation | 15.1 | Examine the use of Audible Signals as aids to navigation and develop an IALA Guideline on their future. | 15.1.1 | Liaise with ANM Committee regarding the future use of audible AtoN signals and consider the preparation of a new Guideline | EEP18 | This work will be conducted in conjunction with the ANM Committee. |
| 15.1.2 | Consider developing a new Guideline on the installation and operation of audible AtoN signals | EEP20 |  |
| 16 | Workshops and Seminars | 16.1 | Workshops and Seminars | 16.1.1 | Subject to Council approval, hold a Workshop on Arctic engineering aspects (civil engineering, power systems, environment) – April 2013   * Agree scope the event * Determine a location and host for the event * Prepare submission for council approval * Organise Seminar | EEP 21 |  |

Sessions WG1 – AtoN Design and Maintenance - Chairman: A. Wilkins

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | 15 | 16 | 17 | 18 | 19 | 20 | 21 | Comments |
| 2.1.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 2.1.2 |  | ■ | ■ | ■ | ■ |  |  |  |
| 2.1.3 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 2.1.4 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 2.2.1 | ■ | ■ | ■ | ■ | ■ |  |  |  |
| 2.3.1 | ■ | ■ | ■ | ■ |  |  |  | Completed at EEP17 |
| 2.4.1 |  | ■ | ■ | ■ | ■ |  |  |  |
| 4.1.1 | ■ | ■ | ■ |  |  |  |  | Completed at EEP16 |
| 5.1.1 |  | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 11.1.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 11.2.1 |  | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 12.3.1 |  |  | ■ | ■ | ■ | ■ |  |  |
| 13.1.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 13.2.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 13.3.1 |  |  |  | ■ | ■ | ■ |  |  |
| 13.4.1 |  |  | ■ | ■ | ■ |  |  |  |
| 14.1.1 |  | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 15.1.1 |  | ■ | ■ | ■ |  |  |  |  |
| 15.1.2 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 16.1.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |

WG2 – Heritage, Conservation and Civil Engineering - Chairman: B. McIntosh

| **Task No** | **Task** | **Obj No** | **Objective** | **Activity No** | **Details of work to be undertaken** | **Expected completion** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 9 | Heritage and Conservation | 9.1 | Maintain the IALA Lighthouse Conservation Manual. | 9.1.1 | Update the IALA Lighthouse Conservation Manual   * Update existing chapters * Include additional guidelines from previous session as new chapters * Include additional guidelines from current session as new chapters. * Publish new version 2 on Heritage page on IALA Website | EEP21 |  |
| 9.2 | Selection and display of historic artefacts. | 9.2.1 | Produce new guideline on selection and display of historic artefacts   * Provide guidance on the selection and display of historic artefacts on and off the lighthouse * Provide examples of best practise | EEP17 | Completed at EEP17 |
| 9.3 | Give guidance on the process of transferring redundant lighthouses including site remediation. | 9.3.1 | Produce new guideline on Management of Surplus Lighthouse Property ~~transfer of redundant lighthouses~~   * Include site remediation and making the site safe for transfer. * Provide guidance on maintaining safeguards to the heritage value of the lighthouse site as a whole. | EEP19 |  |
| 9.4 | Report on case studies. | 9.4.1 | Report on Case Studies  Produce Case Study reports for Nakkehoved and Cabo Mayor Lighthouses projects and post on Heritage website page. | EEP~~18~~19 |  |
| 9.4.2 | Investigate opportunities for additional projects suitable for case studies. | EEP21 |  |
| 9.5 | Document history of floating AtoN. | 9.5.1 | Document History of Floating Aids to Navigation | EEP20 |  |
| 9.5.2 | Publish booklet on History of Floating Aids to Navigation and post on website | EEP21 |  |
| 9.6 | Promote an international network for historic lighthouses. | 9.6.1 | Re-Issue Questionnaire on Complementary Uses of Historic Lighthouses   * Revise questionnaire to clarify results of previous questionnaire * Include section on knowledge and use of IALA Lighthouse Conservation Manual * Summarise statistics from questionnaire, produce report on results and publish on Heritage page of website * Review work programme on basis of results | EEP~~19~~20 |  |
| 9.6.2 | Promote an international network for historic lighthouses.   * Develop an international web link to historic lighthouse documents through the IALA website * Develop Heritage page of IALA Website to allow publication of heritage related documents and to improve availability to other bodies. * Explore with the editor of the IALA Bulletin the possibility of publishing a document on historic light vessels and service vessels worldwide on Heritage website page | ongoing |  |
| 10 | Civil Engineering and Structures | 10.1 | Give guidance on anti-fouling techniques (marine growth) for floating aids, boat landings, etc. | 10.1.1 | Produce guideline on anti-fouling techniques (marine growth) for floating aids, boat landings, etc. | EEP19 |  |
| 10.2 | Building maintenance and conditioning in low energy environments, low power ventilation systems, avoiding condensation. | 10.2.1 | Expand the Guideline on Building maintenance and conditioning in low energy environments and guidance on low power ventilation systems and avoiding condensation.   * Consult with members and other bodies to obtain information on the problems and solutions in their region. * Revise the Guideline to include new information | EEP21 |  |
| 10.2.2 | Revise Lighthouse Maintenance Guidance   * Identify relevant Guidelines * Update existing Guidelines with respect to Lighthouse Maintenance * Develop new Guidelines to complete the required information | EEP21 |  |
| 10.3 | Engineering for natural disasters. AtoN structures in natural disaster areas. | 10.3.1 | Provide guidance on protection and repair of Aid to Navigation Structures in Natural Disaster Areas   * Provide information on reinforcement and management of AtoN structures in natural disaster areas, time permitting, in the context of * Reinforcement of lighthouses in natural disaster-prone areas * Management of earthquake/tsunami damaged structures * Take natural disasters into account, when designing new constructions * Possible addition to the NAVGUIDE or Conservation Manual | EEP20 |  |
| 12 | Quality Management | 12.4 | Update relevant sections of Navguide | 12.4.1 | Review and update NAVGUIDE Section 8.11 | EEP19 | Coordinated by WG3 |
| 16 | Workshops and Seminars | 16.2 | Workshops and Seminars | 16.2.1 | Subject to Council approval, hold a Seminar on Maintaining Historic Lighthouses – late May / early June 2013 update on problems, solutions for repair and maintenance and the future use of historic lighthouses.   * Agree scope the event * Determine a location and host for the event * Prepare submission for council approval * Organise Seminar | EEP21 | Proposal approved by Council to Council from EEP17 |

Sessions Heritage and Civil Engineering - Chairman: B McIntosh

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | 15 | 16 | 17 | 18 | 19 | 20 | 21 | Comments |
| 9.1.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 9.2.1 | ■ | ■ | ■ |  |  |  |  | Completed at EEP17 |
| 9.3.1 |  | ■ | ■ | ■ | ■ |  |  |  |
| 9.4.1 |  |  | ■ | ■ | ■ |  |  |  |
| 9.4.2 |  |  |  |  |  | ■ | ■ |  |
| 9.5.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 9.5.2 |  |  |  |  |  | ■ | ■ |  |
| 9.6.1 | ■ | ■ | ■ | ■ | ■ | ■ |  |  |
| 9.6.2 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 10.1.1 | ■ | ■ | ■ | ■ | ■ |  |  |  |
| 10.2.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 10.2.2 |  |  |  | ■ | ■ | ■ | ■ |  |
| 10.3.1 |  |  | ■ | ■ | ■ | ■ |  |  |
| 12.4.1 |  |  | ■ | ■ | ■ |  |  |  |
| 16.2.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | Proposal approved by Council |

WG3 – Environment, Quality Assurance and Publications - Chairman: D. Jeffkins

| **Task No** | **Task** | **Obj No** | **Objective** | **Activity No** | **Details of work to be undertaken** | **Expected completion** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Knowledge Sharing / Knowledge Management, taking into account open source software | 1.1 | Develop procedures for informal sharing of information between members. | 1.1.1 | Develop procedures for informal sharing of information between members. | EEP21 |  |
| 1.2 | IALA Reference Library. Develop and populate the IALAWIKI with information on Aids to Navigation (AtoN) not included in official IALA documents. | 1.2.1 | Develop and populate the IALAWIKI with information on Aids to Navigation (AtoN) not included in official IALA documents. | EEP21 |  |
| 6 | Environment and Safety | 6.1 | Provide guidance on methods for determining and reducing carbon footprint of AtoN services, handling of mercury in lighthouses, worker safety, treating legionella and coli bacteria in water supplies of unmanned stations. | 6.1.1 | Develop new Guideline on methods for determining and reducing carbon footprint of AtoN services, possibly through an additional chapter in the Green guide. | EEP20 |  |
| 6.1.2 | Revise NAVGUIDE content for guidance on safe handling and management of mercury. | EEP18 | Completed at EEP18 |
| 6.1.3 | Develop new Guideline on treating legionella and coli bacteria in water supplies of unmanned stations. | EEP20 |  |
| 6.1.4 | Develop new Guideline on development of safety management for AtoN activities | EEP~~18~~19 |  |
| 6.2 | Consequences of global warming in terms of storm events and sea level rising on AtoN provision and maintenance. | 6.2.1 | Incorporate consideration of the implications of global warming on AtoN provision in the ‘Green Guide’. | EEP20 |  |
| 6.3 | Update the IALA Green Guide. | 6.3.1 | Revise Guideline 1036 IALA Green Guide | EEP20 |  |
| 7 | Aids to Navigation Training | 7.1 | Assist in developing the World Wide Academy, e-training. | 7.1.1 | Develop new Model Course for the Accreditation of Level 1 AtoN Training | EEP18 | Completed at EEP17. |
| 7.1.2 | Develop Model Course for Accreditation of Level 2 AtoN Technician  Develop detailed Model Courses for Level 2 AtoN Technician Training | EEP18  EEP21 | Completed at EEP16.  4 level 2 model courses completed to date. |
| 8 | Product  Procurement | 8.1 | Provide guidance on the procurement of AtoN equipment and systems. | 8.1.1 | ~~Review~~ Withdrawn Product Certification scheme including references in other documents ~~and make recommendations~~  Develop new Guideline on the procurement of AtoN equipment ocurement of AtoN equipment and systems. | EEP~~19~~21 |  |
| 8.2 | Maintain and develop product templates. | 8.2.1 | Maintain and develop product templates. Templates can be annexed in the Procurement Guideline. | EEP21 |  |
| 8.3 | Consider developing an IALA Product Guide. | 8.3.1 | Develop IALA product guide database schema | EEP18 | Completed at EEP16. AtoN products are now displayed on the revised IALA website. |
| ~~8.3.2~~ | ~~Develop new Guideline and XML schema for AtoN product data exchange~~ | ~~EEP19~~ | Task moved to WG1. |
| 12 | Quality Management | 12.1 | Provide guidance on Quality management in Aids to Navigation Engineering, quality assurance of Aids to Navigation services | 12.1.1 | Contribute to the review of Recommendation 0-132 on quality management for aids to navigation authorities | EEP20 | Completed at EEP18. |
| 12.1.2 | Review Guideline 1052 on quality management in aids to navigation service delivery | EEP21 | Completed at EEP18. |
| 12.1.3 | Manage Review of NAVGUIDE  Review and update NAVGUIDE Section 8.3, 8.7, 8.8, 8.9, 8.10, 8.12 | EEP21 |  |
| 12.2 | Further work on Key performance indicators. | 12.2.1 | Develop Guideline on key performance indicators | EEP21 |  |
| 16 | Workshops and Seminars | 16.3 | Workshops and Seminars | 16.3.1 | Subject to Council approval, hold a Seminar on Model training courses covering different AtoN systems and services (Promotion of the IALA World-Wide Academy) 2013.   * Agree scope the event * Determine a location and host for the event * Prepare submission for council approval * Organise Seminar | EEP 21 |  |

Sessions Environment, Quality Assurance, and Publications - Chairman – D. Jeffkins

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | 15 | 16 | 17 | 18 | 19 | 20 | 21 | Comments |
| 1.1.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |
| 1.2.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |
| 6.1.1 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 6.1.2 | ■ | ■ | ■ | ■ |  |  |  |  |
| 6.1.3 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 6.1.4 | ■ | ■ | ■ | ■ | ■ |  |  |  |
| 6.2.1 |  |  |  | ■ | ■ | ■ |  |  |
| 6.3.1 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 7.1.1 | ■ | ■ | ■ | ■ |  |  |  | Completed at EEP17 |
| 7.1.2 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 4 level 2 model courses completed to date. |
| 8.1.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |
| 8.2.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 8.3.1 | ■ | ■ | ■ | ■ |  |  |  | Completed at EEP16 |
| 12.1.1 |  |  | ■ | ■ | ■ | ■ |  | Completed at EEP18 |
| 12.1.2 |  |  |  | ■ | ■ | ■ | ■ | Completed at EEP18 |
| 12.1.3 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 12.2.1 |  |  |  | ■ | ■ | ■ | ■ |  |
| 16.3.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |

WG4 – Light and Vision - Chairman: M Card

| **Task No** | **Task** | **Obj No** | **Objective** | **Activity No** | **Details of work to be undertaken** | **Expected completion** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | Engineering – Visual Aids | 2.5 | Update IALA Recommendation E-110 | 2.5.1 | Update IALA Recommendation E-110, with respect to the characteristics of the EWMB | EEP19 | Completed at EEP18. |
| 3 | Visual Perception of Lights and Daymarks | 3.1 | Provide guidance on apparent intensity, probability of detection of visual aids, human perception of flickering light, conspicuity of lights, conspicuity of daymarks. | 3.1.1 | Continue the development of Draft Guideline 1073 on Conspicuity of AtoN Signal Lights at Night. | EEP16 | Completed at EEP16. |
| 3.2 | Gather conspicuity visual signalling documents in to a more logical suite of documents and examine how this might reflect on all EEP documents. | 3.2.1 | Review present and developing IALA documents related to conspicuity visual signalling and gather into a suite of documents similar to the E200 concept. | EEP20 | Scope has been expanded to cover all visual signalling documents |
| 3.3 | Develop guidance on the degradation of LED light sources. | 3.3.1 | Update Guideline 1043 on Light Sources used in AtoN, to include additional information on LEDs. | EEP17 | Completed at EEP17  This work, led by Aivar Usk will incorporate information into the guideline regarding the degradation of LED light sources over time and offer methods of measurement to monitor the gradual decrease in luminous output. There |
| 3.4 | Provide guidance on vertical divergence of lights, focal plane height, sector lights, daymark design, surface colours. | 3.4.1 | Consider providing guidance on focal plane height of AtoN | EEP20 |  |
| 3.4.2 | Revise Guideline 1041 on Sector Lights to include new work on this subject. | EEP20 |  |
| 3.4.3 | Develop new Guideline on Design of Daymark. | EEP1920 | Inter-sessional work will continue between EEP18 and the Brest workshop, with a view to complete at EEP19. |
| 3.4.4 | Revise Recommendation E108 on Surface Colours to include measurement of surface colours. | EEP20 |  |
| 3.5 | CIE Rapporteur with respect to Conspicuity of Lights | 3.5.1 | Monitor and report on relevant CIE work on visual AtoN. | EEP21 | On-going |
| 3.6 | Illumination of structures | 3.6.1 | Update Guideline 1061 on Light Applications - Illumination of Structures to include information on the use of colour floodlighting of lighthouses. | EEP21 | Further input papers expected for EEP19 |
| 12 | Quality Management | 12.5 | Update relevant sections of NAVGUIDE | 12.5.1 | Review and update NAVGUIDE Sections 3.1, 3.2 | EEP20 | Completed at EEP18 Co-ordinated by WG3 |
| 13 | e-Navigation across Committees | 13.4 | Modulation of light sources to produce automatic identification and RCM. | 13.4.1 | Develop the concept of visible light for data communications, providing guidance if appropriate | EEP21 | Probably will collect information on IALA Wiki but no action on IALA Guidance at present |
| 16 | Workshops and Seminars | 16.4 | Workshops and Seminars | 16.4.1 | Subject to Council approval, hold a Workshop – Fixed and Floating AtoN (incorporates IALABATT/IALALITE and FLOATAID) 2012   * Agree scope the event * Determine a location and host for the event * Prepare submission for council approval * Organise Seminar | EEP20 | EEP16 proposal approved by Council.  Draft objectives submitted to Steering Group at EEP17 |

Sessions Light and vision – Chairman – M. Card

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | 15 | 16 | 17 | 18 | 19 | 20 | 21 | Comments |
| 2.5.1 |  |  |  | ■ | ■ |  |  |  |
| 3.1.1 | ■ | ■ |  |  |  |  |  | Completed at EEP16 |
| 3.2.1 |  |  | ■ | ■ | ■ | ■ |  |  |
| 3.3.1 | ■ | ■ | ■ |  |  |  |  | Completed at EEP17 |
| 3.4.1 |  |  | ■ | ■ | ■ | ■ |  |  |
| 3.4.2 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 3.4.3 |  | ■ | ■ | ■ | ■ |  |  |  |
| 3.4.4 |  |  | ■ | ■ | ■ | ■ | ■ |  |
| 3.5.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 3.6.1 |  |  | ■ | ■ | ■ | ■ | ■ |  |
| 12.5.1 |  |  | ■ | ■ | ■ | ■ |  | Completed at EEP18 |
| 13.4.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |
| 16.4.1 |  | ■ | ■ | ■ | ■ | ■ |  |  |
| 4.1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ |  |

1. Developments in Lighthouse Conservation

A key objective of WG2 is the sharing of information in regards to Lighthouse Conservation initiatives within member countries. The following is a summary report provided at EEP18.

**Australia**

AMSA continues to place high importance on maintaining and utilising its historic buildings.

The following upgrade work has recently been completed:

* Cape Leeuwin, Western Australia (1896) – This stone tower has had the internal barrel stripped of remaining paint to assist in moisture control.

Minor projects:

* New brass lantern room vents have been recast and fitted to Swan Island light (1845) in Bass Strait, Tasmania;
* Chance brass makers plaques have been manufactured to match originals to replace those missing from various AMSA lights;

Official lighthouse openings to the general public:

* Tasman Island (1906) located in Storm Bay, Tasmania will be opened to visitors on 14th April 2012. Access will be via helicopter for paying guests with all proceeds going to Rotary International for use on local charity projects;
* AMSA will be celebrating the 150th anniversary of the Gabo Island lighthouse in Victoria in August 2012. Brochures and models for this event are underway and these will be inserted into the local newspaper as a free handout. The local school will also receive one per child.

AtoN artefacts update:

* The original Chance Bros 3rd Order rotating lens from Double Island Point in Queensland was returned to AMSA and is now in safe storage in our store facility in Canberra;
* AMSA was advised in February 2012 that approx. 15 pallets of artefacts will be returned from storage in Tasmania. This includes a complete Chance Bros 2nd Order lens assembly, a Chance Bros 7’1” lantern room, clock cases, clockworks and kerosene components;
* An AGA L500 lantern has been refurbished and is now on display in the AMSA HQ Foyer;
* Digitising of the AMSA employment (ex-light keepers) and photographic records continues as part of a project between AMSA and the non-profit group Lighthouses of Australia.

**Norway**

In 2012 the lighthouse administration will produce management and maintenance plans for ten of our listed lighthouses. Parallel to this, the Lighthouse Museum has developed a system and design for information-boards to be used on all listed lighthouse stations owned by the government.

Lindsnes Lighthouse Museum is taking part in a Scandinavian EU-project called "Coastal future", focusing on the development of sustainable tourism. As part of the project, information boards are made for all the 8 lighthouses in the county of Vest-Agder, and audio-guides are made accessible to visitors on mobile phones, I-pads etc.

In close cooperation between the lighthouse museum and the lighthouse administration, a large, national project on documentation and presentation of the maritime cultural landscape has been launched. The project is based on geo-tagging of information to places of interest, and producing a number of short films on different topics relating to maritime heritage and the maritime infrastructure. The information will be made accessible on mobile phones, I-pads, computers etc. through the internet. The pilot is now under production at Lindesnes and will be finished in 2012.

By request of the Scandinavian Cultural Fund, the project will also be extended to cover the historic trade-route between the North Sea and the Baltic, through Skagerrak and Kattegat. Lindesnes Lighthouse Museum has already established partnerships with Swedish and Danish museums, but also hope to involve the lighthouse authorities in the three Nordic countries in the development of the project.

Through a co-operation between the lighthouse administration, the lighthouse museum and the Norwegian lighthouse society, a register of all the lighthouse lenses in Norway has been started. Hopefully this project may be widened to cover a more elaborate registration of technical equipment at the lighthouse stations.

**Scotland**

The Northern Lighthouse Board continues to review the role of traditional Aids to Navigation. A recent user consultation exercise was carried out in relation to several historic Lighthouses which has resulted in one major historic lighthouse being shut down and replaced by a buoy and another lighthouse from the 1950’s being discontinued. Both the lighthouse sites will be disposed of through public sale. Another three lighthouses have been retained due to user comments. An earlier review indicated that six other lighthouses, some of historical importance, were no longer used for general navigation and negotiations are currently underway to hand these over to the local harbour authority. In addition we have adopted a policy of disposal of all non-operational property in response to the demand for cost cutting by the UK government. This could have a significant impact in the long term future of many of Scotland’s Historic lighthouses including the disposal of staff facilities, holiday homes as well as many small associated buildings.

**Sweden**

The historical lighthouses in Sweden have been the subject of several investigations. Most recently, the so-called Cultural Property investigation, suggested that a large number of lighthouses would be maintained by the state in the long term.

The government made no decision on the cultural property investigation (study) but they set up a new one (started a new investigation)! As a result of the later study, the government has now appointed a special investigator to review the properties and buildings that are historically valuable and which should be owned by the State (through the National Property Board).

The assignment also includes an inventory of the historically valuable properties that the state no longer need. The point is that the State shall own real estate that is of particular historical importance, has a particularly important symbolic value or is vital to national security.

It is clear therefore that a number of SMA lighthouses will be transferred to the National Property Board. Exactly which it will be and in what time the transfers will take place are probably things that the investigator is looking into. The investigation (study) is to report by 3 December 2012.

For 9 consecutive years the Swedish Lighthouse Society (www.fyr.org) has arranged the International Lighthouse Day/Weekend in Sweden. In 2003 we had 2500 visitors to 33 Lighthouses and last year (2011), we had close to 12200 visitors to 72 Lighthouses.

As usual during late August, many parts of Sweden had rain and very strong winds but there were also places with sun. As a result of the weather it was not possible to visit some Lighthouses but we are still very pleased that we had so many visitors. As usual the press coverage in newspapers, radio and TV was very good.

The Swedish Lighthouse Society has arranged a Seminar "Meetings with our Lighthouses" in Gothenburg (with lectures, exhibitions, etc.). In Sweden we have about 35 – 40 local Lighthouse Societies. The seminar gathers around 10 Swedish Local Lighthouse Societies together. The idea is to use a lot more cross fertilisation between different Lighthouse Societies in Sweden as most of the societies have no idea what the other societies are doing.

During a month around 10 local Lighthouse Societies will give lectures about what they are doing, present their society to the public and have their own exhibition of their Lights. The Swedish Lighthouse Society has also arranged an exhibition and gave 6 major presentations.

The Swedish National Administration also attended, taking part in the debate as well as giving a presentation of their plans for the future.