



Please comment
by 3 May

Report of the 20th Session of the IALA EEP Committee

15 to 19 April 2013

Executive Summary

- 50 members from 26 countries attended this meeting of the EEP Committee; 7 members attended for the first time;
- the Committee considered 52 input papers (less than half the number for EEP19);
- the Committee produced 23 output documents, comprising:
 - a draft revised Guideline on Lightning Protection;
 - a draft Guideline on Hydrostatic Buoy Design;
 - a draft Guideline on Safety Management for AtoN activities;
 - a draft Guideline on AtoN Training and Accreditation;
 - draft revised Recommendation E-108 on Surface Colours;
 - 1 Level 1 Model Course;
 - 9 Level 2 Model courses;
 - a workshop proposal
 - 6 Liaison Notes, including updates to the NAVGUIDE.
- preparations for the Heritage seminar were finalised;
- 4 senior members of the International Commission on Illumination (CIE) visited and addressed the meeting (agenda item 6);
- inter-sessional work, by correspondence, is planned;
- permission is sought for the holding of a workshop on Arctic Engineering from 2-6 September in Greenland (agenda item 8.6);
- changes have been proposed to the Work Programme, at EEP20/output/2.

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EEP Committee

20th Session

19 April 2013

Report of the 20th Session of the IALA EEP Committee

1 OPENING

The 20th meeting of the Engineering, Environment and Preservation of Historic Lighthouses (EEP) Committee was held from 15 to 19 April 2013 at IALA. The Chairman was Ómar Frits Eriksson and apologies had been received from the Vice Chairman, David Jeffkins. The Secretary for the meeting was Mike Hadley.

The Chairman welcomed all participants to the Committee meeting, especially those attending for the first time. He then introduced the Deputy Secretary-General, Mike Card, who apologised for the absence of the Secretary-General throughout the duration of the meeting. Mike Card added his welcome to everyone. He noted that EEP20 was the penultimate meeting of the current Work Programme, which ends with the 2014 Conference. He remarked that planning is well in hand for establishing a strategic plan for IALA, which is being aimed at covering the next three Work Programmes (2014 – 2026). In this respect, he asked that anyone who felt that they had an input to such planning should contact the Chairman, who would be participating in a strategy meeting at the end of the month. He then went on to warn of the possibilities of IT challenges during EEP20, before wishing the Committee a successful and productive week.

Individual Committee members were then asked to introduce themselves.

1.1 Approval of the Agenda

The agenda at EEP20/1 rev8 was approved.

1.2 Apologies

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

Name	Organisation	Country
Jaffer Abdullah	MENAS	Bahrain
Hilde Andresen	Kystverket	Norway
Wayne Danzig	USCG	USA
Vincent Guigeno	CETMEF	France
David Jeffkins	AMSA	Australia
Eoghane Lehane	CIL	Ireland
Mariano Luis Marpegan	Hidrovia	Argentina
Moray Waddel	NLB	Scotland

1.3 Programme for the week

EEP20/4 rev1 refers.

The Chairman ran through the plan for the week, including the social programme.

1.4 Administrative Announcements

Mike Hadley gave details on safety and administrative matters.

The Chairman thanked the Secretary for the information provided.

2 REVIEW OF ACTION ITEMS FROM EEP19

Input paper EEP20/2 refers. Action items for the IALA Secretariat from EEP19 were reviewed and, with one exception, noted as complete.

Action 5. The Secretariat is requested to forward the draft Guideline for Application of AIS on Buoys (EEP19/output/3) to the IALA Council for approval.

This action had not been completed and the Secretariat was asked to forward the draft Guideline to the 55th session of the IALA Council for approval.

Action item

The Secretariat is requested to forward the draft Guideline for Application of AIS on Buoys (EEP19/output/3) to the IALA Council for approval.

It was noted that all actions attributed to the WWA were complete.

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

3 REVIEW OF INPUT PAPERS

EEP20/3 rev7 refers.

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

The Chairman emphasised the importance of using the input paper template provided before thanking the Committee members for the effort in providing the input papers and the level of inter-session work that they represented.

4 REPORTS FROM OTHER BODIES

4.1 IALA Council 54th Session (December 2012)

EEP20/19 refers.

The meeting noted:

- the implementation of IALA Recommendation E.141 Ed.2, including the grandfather clause, lies with competent authorities (item 9.5.5);
- the workload and activity of IALA is still on the increase but that there were signs that the Committees were overloaded;
- that IALA has identified Governance as a strategic work area and is making a number of improvements in respect of administration and financial management;
- the Secretary-General is requested to review all income and expenditure and identify any savings / efficiencies that can be made;
- the Secretariat is requested to start the process for developing IALA's strategy;
- EEP Committee items (item 9.5);
- comments by the WWA (item 10);
- the discussion on publications & pricing (item 18.2).

4.2 PAP24 (October 2012)

EEP20/20 refers.

The Committee noted:

- the comments on training in S-100 for Committee members (items 8.1 and 8.3);
- the planned changes in IMO Committee structure and potential for impact on IALA (item 6.3);
- the improvements in IWRAP Mk2 and the report of the Sydney Risk Management seminar (item 11.1);
- the need for IALA Committee succession planning (item 17.5);
- the actions with respect to the IALA website and historic lighthouses (item 3.3);
- the notes on the EEP Committee (item 5.3);
- that the IALA Dictionary is to be a standing agenda item;
- outstanding proposal for an Arctic Engineering workshop;
- the possible revision of the EEP & ANM Committee meetings;
- the comments on the review of IALA documentation (item 14.1);
- the need for a plan to review Recommendations & Guidelines;
- the request for support to the editor of The IALA Bulletin (item 16);
- the PAP is to consider the existing Committee structure (items 14.4 & 17.1);
- the pricing of workshops / seminars (item 17.2);
- the comments on succession planning (item 17.5).

4.3 IMO MSC91 (November 2012)

EEP20/21 refers.

The Committee noted the specific recommendations made for the EEP Committee (item 11.5) and the Chairman drew attention to the significance of the potential overloading of the VHF datalink, with which the e-NAV Committee is grappling.

5 REPORTS FROM RAPPORTEURS

5.1 Developments in Aids to Navigation (M1*)

With reference to the draft Guideline on Buoy painting, Adrian Wilkins reported that slippery, anti-fouling paint is now available commercially (<http://www.hempel.com/en/product-list/product-search-results?q=antifouling&segmentS=%7BAA6D78A5-D1AB-4427-BDC2-4E99FE387C0F%7D&substrateS=0&typeS=0&functionS=0>)

5.2 Developments in Renewable Energy Sources (M2*)

There was nothing to report.

5.3 Developments in Battery Technology (M3*)

There was nothing to report.

5.4 Developments in New Light Sources (M4*)

There was nothing to report.

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

5.6 CIE-IALA Liaison (M6*)

There was nothing to report, due to the visit by CIE during EEP20. (see agenda item 6.4)

5.7 IALA Dictionary (M7*)

The Chairman said that there were no changes to report but he urged the Committee to use the Dictionary and said that if members saw anything worth reporting that they should contact either the Secretariat (contact@iala-aism.org) or himself. He then provided a brief description and the usage of the dictionary for those new to the Committee.

6 PRESENTATIONS

Five presentations were made during the opening plenary session. The associated PowerPoint files are available on the IALA ftp site and the Committee website.

Due to a coincidence of CIE's 100th anniversary being celebrated by a conference in Paris, it was possible for four of its members to attend the opening plenary of EEP20 for some much appreciated exchange of views. They were Dr Peter Blattner (Director) and Mr Tony Bergen, representing CIE Division 2 and Dr Yandan Lin (Associate Director) and Dr Ronald Gibbons, representing CIE Division 4.

6.1 IALA World-Wide Academy (WWA) – Stephen Bennett

Stephen Bennett spoke of the recent activities of the WWA, outlining its purpose and how it fits into wider international activity. He spoke of the support to and from the IALA Committees before indicating the Academy's target audience. The focus then turned to capacity building and the courses that are used. It was indicated that seven experts have already been endorsed and that EEP members are encouraged to register. The presentation ended with a summary of the WWA associated documentation currently with the EEP Committee for finalising and an aim for all planned model courses to be complete by the end of EEP21.

6.2 IHO S-100 GI registry – Malcolm Nicholson

The presentation, prepared by Dr Nick Ward of the GLA R&RNAV, introduced the IHO S-100 GI Registry, starting with the definition of e-Navigation, placing emphasis on the words harmonisation and integration, before covering the objectives of e-Navigation. The presentation then covered the aim of achieving a Common Information Structure, the need for a Common Maritime Data Structure (CMDS), the need for agreed Data Exchange formats and then stated that the IHO Registry has been accepted, by the IMO, as the common baseline for the CMDS. The uses of the IHO registry were covered, together with its contents and the practical aspects that flow from this, giving examples relevant to IALA. The e-Navigation timescale was covered, as were the benefits before conclusions were drawn.

Dr Ward has indicated that he is happy to take questions (nick.ward@gla-rnav.org).

In the discussion that followed it was suggested that the word 'product' in the term product specification was misleading.

There are speaking notes with this presentation.

6.3 Plastic buoy repair and the application of position names on plastic buoys – Sipke Hoekstra

The presentation fell into two parts, first the techniques being used to repair plastic buoys and then the challenges of placing names on plastic buoys.

Having covered the types of buoys involved, the basic materials used in plastic buoys (Polyurethane & Polyethylene) were discussed. The requirements and possibilities for repair were stated before various welding techniques were described, with before and after examples being shown.

Turning to the application of names to plastic buoys, the presentation then covered surface

preparation, the various options for applying the name, the challenges faced and the solutions that have been used. This aspect of the presentation was also supported with numerous examples.

6.4 Calculation of light – Frank Hermann

The challenges facing the markers of waterways were introduced before it was shown that despite light being a huge market, the position within it held by maritime requirements is extremely small. Although tools exist for various computer calculations involving light, until recently, very few existed for signal lights. Having indicated the calculation process the program Dialux (<http://www.dial.de>), freeware for computers with the MS Windows operating systems, was introduced. Alternatives were also mentioned: Relux (<http://www.relux.biz>), Visual (<http://www.visual-3d.com>) and Synopsis Light tools (<http://www.synopsys.com/tools/opticaldesign>) from the US.

Usage of Dialux was then covered in some detail, including its outputs. A caution was raised about an issue when using lighthouse illumination, which can lead to something referred to as a rival light. The presentation ended with suggested countermeasures for overcoming rival lights.

6.5 CIE overview and Division 2 – Measurement of light and radiation, Peter Blattner

The presentation began with a question “what do you think CIE is?” Having established that CIE is an independent NGO and that its remit covers: light, vision & colour, science & standards and knowledge transfer & quality assurance, the CIE brand was stated and its stakeholders, one of which is IALA, were indicated. The associations and bodies with which CIE has formal links were shown, followed by significant milestones in CIE’s 100-year history. The presentation then went on to cover the structure of CIE, mentioning the Commission, the Divisions and the Technical Committees.

Turning to focus on Division 2, the division’s terms of reference were shown, followed by a statement of the need for trustful measurement, which was broken down under the headings of globalisation, emerging technology and regulation. The question was then posed “Is LED photometry different from ‘classical’ photometry?” To which the answer was not really but LED introduce several new aspects and a few critical points that need to be considered. This was followed by a listing of 10 Technical Committees that relate to LED / SSL (Solid State Light), with examples of some of the topics on which they are working. Looking at regulation, there were 6 Technical Committee’s dealing with this aspect of Division 2’s work, which led to discussion of measurement results, statement of conformity, risk analysis and uncertainty calculation. The presentation ended with the announcement of two forthcoming CIE events.

In the subsequent discussion, it was established that CIE documents generally have to be paid for but that there is a substantial discount for members. When it was asked if IALA has any measurements of intensity of lighthouse beacons, it was acknowledged that they exist and can be made available to CIE.

The discussion covered indirect measurement of temperature in LED crystals, to which CIE responded that although this topic is of interest to CIE it is not really within its remit. It was then asked what CIE’s perception of IALA’s needs was? It was stated that CIE is currently has a work item on rhythmic lighting and that a report was expected shortly. It was then remarked that maritime representation is low, compared to shore stakeholders. It was emphasized that CIE is not commercial organization and that it does have a close relationship with ISO.

6.6 CIE Division 4 – Lighting and signalling for transport, Dr Yandan Lin

The presentation covered the division’s terms of reference and key personnel before turning to show the 13 Technical Committees with which the division is mainly involved. An indication was given of the organisation and rapporteurs with which the division is involved, which includes IALA, represented by Malcolm Nicholson. The presentation then focussed on two specific Technical Committees (TC4-32 (Surface colours for traffic signs) and TC4-47 Application of LEDs in transport signalling and lighting)). This included the latest draft reports from the Committees. The presentation ended with a suggestion for possible co-operation on the requirement for LED signal lights in the maritime environment.

7 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	Simon Millyard
WG4 Light and vision	Malcolm Nicholson

It was agreed that WGs 1 and 2 would meet on Tuesday, WGs 3 & 4 on Wednesday and that the first session on Thursday would be available to all WG to finalise their work. The plenary review of output documents and the reports from Working Group Chairmen would start at 1100 on the Thursday.

8 WORKING GROUP 1 – AtoN INFRASTRUCTURE DESIGN & MAINTENANCE

Working Group 1 was asked to respond to input papers EEP20/5, EEP2/6, EEP20/7, EEP20/8, EEP20/9, EEP20/10, EE20/11, EEP20/48, EEP20/49, EEP20/50, EEP20/51, EEP20/52.

8.1 AtoN Engineering (Task 2*)

8.1.1 Lightning Protection (Activity 2.1.2)

Review of the document Guideline 1012 commenced at EEP17 and continued through both EEP18 and EEP19. Further intercessional review was undertaken prior to EEP20. The WG members responsible for that intercessional review undertook a final review during EEP20 and have ensured that the guideline now aligns with the IEC standard. The document is now considered ready for approval. The two spreadsheets contained in the draft Guideline have been extracted as a single Excel Workbook and will be available, on request, from IALA.

Action Item

The Secretariat is requested to forward the draft Guideline on Lightning Protection (EEP20/output/4) to the IALA Council for approval.

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

This document was considered finalized and ready for approval at EEP19 but was not forwarded. The WG agreed there was no more work required on this document and that it should be re-forwarded for approval.

Action Item

The Secretariat is requested to forward the draft Guideline for Application of AIS on Buoys (EEP19/output/7) to the IALA Council for approval.

8.1.3 Provide Input into the Development of the S-100 registry

The important presentation provided by Malcolm Nicholson on the S-100 registry was noted and it was agreed that, in general, the item has been covered in previous deliberations and a liaison note back to the e-NAV committee was drafted, noting the information and that there is no further action required by EEP at this time.

Action Items

The Secretariat is requested to forward the draft Liaison Note to the e-NAV Committee (EEP20/WG1/WP2) to EEP21.

The members of the Committee are requested to review sections 17 – 19 of EEP20/WG1/WP2A (S101 Data Classification and Encoding Guide) and provide input to EEP21.

The Secretariat is requested to forward EEP20/WG1/WP2A (S101 Data Classification and Encoding Guide) to EEP21

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

It was identified that the future focus of work on this topic should be the reliability and integrity of e-Navigation products or equipment installed on conventional AtoN. A liaison note to the e-NAV committee has been drafted to this effect.

Action Items

The Secretariat is requested to forward the Liaison Note on e-Navigation requirements and interfaces (EEP20/output/20) to the e-NAV Committee.

8.1.5 Liaison Note from e-NAV Committee on the 'Roadmap and Key Dates for e-Navigation'

Input paper EEP20/51 and its relevance to the EEP committee was noted.

8.1.6 Liaison Note from e-NAV Committee on the 'Input of Disaster Recovery'

Input papers EEP20/52 and comment that had been provided in a liaison note to the e-NAV committee were noted.

Action Items

The Secretariat is requested to forward the Liaison Note on Disaster Recovery (EEP20/output/19) to the e-NAV and ANM Committees.

8.1.7 Plastic buoys questionnaire (Activity 2.1.1)

Sipke Hoekstra summarized the results of all previous buoy questionnaires. The summary shows that 13 countries (Portugal, China, Sweden, Australia, Netherlands, Estonia, England, Oman, Canada, Germany, Korea, France and Finland) have participated in the questionnaire process, representing a total amount of more than 58,000 buoys. More than 64% (37,449 buoys) of all these buoys are made of plastic, and 100% of plastic buoys are manufactured from PE. The experience with plastic buoys varies from 1 to 35 years. Buoys are installed in all types of conditions of conditions (inshore, offshore, exposed, sheltered, breaking waves, dries at low tide, severe UV exposure and sub zero temperature). The main defects experienced are surface colour retention and cracks and there are only few countries with experience in plastic repair. To the question 'If countries will purchase more plastic buoys', the answer is unanimously YES. The anticipated lifetime varies from 8 to 25 years. Most countries calculate an average life span of 15 years.

Sipke Hoekstra's additional work on the repair of plastic buoys will also be reviewed intercessionally with a view to using relevant parts of the content to update Guideline 1006 on Plastic Buoys. Further work is intended at EEP21.

Action Items

Sipke Hoekstra is requested to continue investigations into the specification of polyethylene moulding materials.

Paulo Mauricio Rego is requested to convert the buoy questionnaire spreadsheet into a format suitable for use in the relevant Guidelines.

8.1.8 Hydrostatic Design of Buoys as an AtoN Platform (Activity 2.1.4)

The Committee noted input paper EEP20/6.

The inter-sessional work carried out on the document between EEP19 and EEP20 and additional information provided by Jørg UNTERDERWEIDE, Philippe RENAUDIN and Adrian WILKINS was also noted. An additional review was undertaken and the document is now considered complete and ready for forwarding to the Council for approval.

The relevance of the video of 'in water buoy stability evaluation', provided by CETMEF was noted and it was proposed that the video should be retained as useful reference material.

Action items

The Secretariat is requested to forward the draft Guideline on Hydrostatic Buoy Design (EEP20/output/5) for Council approval.

CETMEF is requested to upload the video on 'in water buoy stability evaluation' to You-tube and provide the Secretariat with a link to it.

8.1.9 Mooring Design Software

Canada, France, the Netherlands and Trinity House tested the Mobilis Mooring Design Software inter-sessionally. The general consensus from the testing parties was that the software is relatively easy to use but it was noted that it is more easily used with Mobilis products. Trinity House found the results surprisingly similar to their existing moorings whereas the Netherlands and French services found the results to be approximately 40 - 50% longer than existing moorings.

Trinity House noted that the program flags an alarm if the wave height at the buoy site approaches a value close to the water depth.

The Committee noted the document is not entirely intuitive and proposed to encourage Mobilis to provide a descriptive user guide to simplify use of the software and suggest requesting further information from Mobilis regarding the safety factors incorporated into the program.

The Committee would also like to enquire if the software can be adapted for short scope moorings and synthetic moorings.

The Committee were generally happy with the Mobilis software and found it to be suitable for purpose but users should be aware that because it includes wave loading functions the moorings designed will be longer than those designed when using IALA Guideline 1066.

The Committee recommended that the Adrian Wilkins liaise directly with Mobilis on this subject.

Action item

Adrian Wilkins is requested to liaise with Mobilis regarding the Committee's queries and report to EEP21.

8.2 Power Systems and Energy Storage (Task 4*)

This task was completed at EEP16.

8.3 Remote Control and Monitoring (Task 5*)

This task is expected to be completed at EEP21.

8.4 Risk Assessment Techniques in AtoN Design and Maintenance (Activity 11.1.1) (Task11*)

The Committee noted input paper EEP20/7.

Intercessional review on this document was requested at EEP19, but no further review was received. The Committee discussed the value of the document and agreed that it be retained as an information paper on the IALA Wiki.

Action item

The Secretariat is requested to convert EEP20/7 into an Information Paper for possible posting on the IALA Wiki.

8.5 Polar Engineering (Activity 14.1.1)

The Committee noted input papers EEP20/5, EEP20/9, EEP20/10 and EEP20/11.

It was noted that preparation of the 'Workshop on the Specifics of Providing AtoN Services in the Polar Region' will continue and is being provisionally scheduled for early September 2013.

A submission was prepared for the Council for approval to proceed with the workshop. In addition work continued establishing a list of possible contents for the Guideline on Design and Construction of AtoN in Cold Regions.

Action Items

The Secretariat is requested to forward output paper EEP20/output/3 (Workshop proposal) to Council for approval.

The Secretariat is requested to forward working paper EEP/WG1/WP1 (proposed contents of an IALA Guideline) to the polar Engineering Workshop.

8.6 e-Navigation across Committees (Task 13*)

This task is expected to be completed at EEP21.

8.7 The use of Audible Signals as Aids to Navigation (in conjunction with ANM) (Task 15*)

This task was completed at EEP18.

8.8 Review of IALA Guidelines by WG1

Adrian Wilkins reviewed the list of IALA documentation inter-sessionally and provided comments to the Chairman of WG4.

8.9 Consider work for EEP after 2014

The WG were asked to consider additional work activities for inclusion in the post 2014 conference EEP work programme.

There is particular interest on pursuing work on standards and guidance for the specification and material testing for roto moulded polyethylene buoys. Further intercessional review and information from Industrial members on methods and standards of testing and quality control is requested for input at EEP21.

The new work that is started at Item 1.7 on theft and vandalism deterrents is anticipated to continue after 2014.

Action items

EEP Committee Members are asked to identify possible work activities, for further discussion at EEP21.

EEP Committee Members wishing to forward the information in writing are requested to provide the information inter-sessionally to Adrian Wilkins.

8.10 Anti Fouling on Buoys & Impressed Current Anti-Fouling

The WG notes input paper EEP20/48 (slippery anti-fouling), EEP19/20 (WG2 Questionnaires on Anti-Fouling) and EEP19/42 (Input from Korea on electro-chemical anti-fouling).

The WG reviewed all input documents with a view to incorporating relevant information into Guideline 1015 – Buoy Painting. The WG revised the anti-fouling section as a result and will forward it to EEP21 for insertion into Guideline 1015 on Buoy Painting.

Action Item

The Secretariat is requested to forward Working Paper EEP20/WG1/WP3 on anti-fouling to EEP21.

8.11 Theft and Vandalism Deterrents

As a result of comments made by Amadou Ndiaye of Senegal, and the interest shown by a surprising number of authorities, the WG agreed that a document should be created to record information available on this particular issue. The WG created a draft document in guideline format, which should be forwarded to EEP21 for further discussion and development.

Action Items

The Secretariat is requested to forward working paper EEP20/WG1/WP4 on theft and vandalism to EEP21.

The WG is requested to provide further inter-sessional review on this issue and provide input for further development at EEP21.

9 WORKING GROUP 2 – HERITAGE, CONSERVATION & CIVIL ENGINEERING

Working Group 2 was asked to respond to input paper EEP20/12.

The Chairman welcomed all attendees to the working group and in particular to any new members of the working group. It was noted that apologies had been received from Vincent Guigueno and Eoghan Lehane.

9.1 Heritage and Conservation (Task 9*)

9.1.1 Maintain the IALA Lighthouse Conservation Manual (Activity 9.1.1)

A short discussion took place on the future of the Conservation Manual. It was suggested that a review of the manual and the additional guidelines published since then could form an important part of the future work programme for the next session 2014-2018. This might allow the publication of a revised version of the manual or at least an electronic copy which could be published on the website. It is still proposed that the new IALA website will be in operation in 2013 and that a heritage web page will be included. It is intended that this will allow improved member and public access to the manual and other selected material. It was also recommended that presentations or notes of presentations from the Heritage Seminars should be included on the web page. It will be necessary for the Working Group to provide support for the updating and maintenance of the Heritage page once it has become operational.

Malcolm Nicholson has produced a list of all Guidelines, Recommendations and Manuals that are currently under the auspices of the EEP Committee. This will allow easier tracking of the Working Group documents. 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 new work that may be required for next session.

The following have been agreed as those allocated to working group 2. A programme for review will be included in the future work programme.

1063 On Agreements for Complementary use of Lighthouses	Dec-08 Ed 1
1074 On Branding and Marketing of Historic Lighthouses	Dec-09 Ed 1
1075 On a Business Plan for the complementary use of a Historic Lighthouse	Dec-09 Ed 1
1076 On Building Conditioning of Lighthouses	Dec-09 Ed 1
1080 On The Selection and Display of Heritage Artefacts	Dec-11 Ed 1
1093 on the Management of Surplus Lighthouse Property	Dec-12 Ed 1
IALA Lighthouse Conservation Manual	May-06 Ed 1
Information Paper on Definitions on Conservation	Dec-08 Ed 1

The following link is to the Guidelines section of the IALA website where the guidelines listed above can be found.

<http://www.iala-aism.org/iala/publications/publications.php?LeTypePub=2>

Action item

WG2 members are requested to consider how the existing IALA Lighthouse Conservation Manual and recently published guidelines could be revised as part of a new work programme for 2014-2018.

9.1.2 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.

9.1.3 Produce new guideline on transfer of redundant lighthouses (Activity 9.3.1)

IALA Guideline No. 1093 on the Management of Surplus Lighthouse Property has now been published on the IALA website and is available for members to download. This item is now complete.

9.1.4 Report on Case Studies (Activities 9.4.1 & 9.4.2)

The information previously collected on the Case Study reports for group visit to the project at Nakkehoved Lighthouse near Copenhagen has now been added to the IALAWiki to allow it to be available to IALA members. The working group continues to hope that when further Case Study reports are published that it will be possible to publish these on the proposed Heritage page of the new IALA website. This item is now considered to be complete until further Case Study reports become available. The following is a link to the IALAWiki site. Interested members should create an account.

http://www.iala-aism.org/wiki/ialawiki/index.php?title=Main_Page

9.1.5 Document History of Floating Aids to Navigation (Activities 9.5.1 & 9.5.2)

Adrian Wilkins has continued to develop and add to his paper, the History of Floating Aids to Navigation, since the last meeting and the latest version is posted as a working paper EEP20/WG2/WP1, which is considered a final version of the text. In the coming weeks Adrian Wilkins has agreed to complete a review of the appendices to allow a final version of the booklet to be available for publishing.

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

It has also been suggested that there may be an opportunity to present the final document to the Heritage Seminar in Piraeus in June. The Heritage Seminar steering group is requested to consider the possibilities of inviting Adrian to attend the event to introduce the document to the attendees.

Adrian Wilkins is requested to review the Appendices and include them in the document to produce a final Version 1 of the document for publication.

Action Items

The Secretariat is requested to inform the Heritage Seminar steering group that it is requested to consider the possibilities of inviting Adrian Wilkins to attend the event to introduce the History of Floating Aids to Navigation to the attendees.

Adrian Wilkins is requested to review the Appendices and include them in the History of Floating Aids to Navigation to produce a final Version 1 of the document for publication.

Adrian Wilkins and Bob McIntosh are requested to investigate possibilities of obtaining funding for publication of the History of Floating Aids to Navigation booklet.

The Secretariat is requested to forward EEP20/WG2/WP1, History of Floating Aids to Navigation to EEP21.

9.1.6 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 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.

Some discussion took place on the content of the questionnaire and it was suggested that the questionnaire should address the question of what the members require of IALA in relation to Heritage and Historic Lighthouses and the challenges which they see being important in future years in relation to Heritage.

Jo van der Eynden has offered to re-visit the questionnaire and to provide an amended questionnaire to the working group members for discussion.

It has been suggested the questionnaire should be issued as soon as practicable to allow the results to shape next sessions work plans on Heritage and Civil Engineering matters. It is assumed that within the current timescales that it may be into the next session before this information becomes available, but it is felt that any new information to guide the work programme would still be useful.

Action Items

Jo van der Eynden is requested to review the questionnaire on Complementary Uses of Historic Lighthouses as soon as possible and circulate it amongst WG2 members for comment.

When available, WG2 members are requested to review the questionnaire circulated by Jo van der Eynden and return comments to him in advance of EEP21.

Jo van der Eynden is requested to incorporate WG2 members' comments and submit a revised questionnaire on Complementary Uses of Historic Lighthouses to EEP21 for committee approval.

9.1.7 Promote an international network for historic lighthouses (Activity 9.6.2)

This continues to be 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 continue to be developed under work item 9.1.8.

After on-going discussions with the Secretariat on the Heritage web page it was 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 with the website provider. The Secretariat continues to anticipate the early availability of the IALA Heritage webpage and it is hoped that it will encourage the exchange of information on all matters relating to the Heritage of our Historic Lighthouses. During the meeting the headings on the draft Heritage web page on the existing website were reviewed and found to be suitable. This will hopefully be mirrored on the new website.

The editor of the IALA Bulletin requested that the WG2 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. More recently we have published articles on the Dalen Anniversary and a previous issue of the bulletin included an article on the removal of the 1st order lens at Tod Head Lighthouse, Scotland and an introductory article on the Athens Seminar in 2013. We wish to continue this success and ask that members of the working group will offer articles to allow 'The Lighthouse Preservation Corner' to continue to be published on a regular basis. A list has been prepared of articles from recent issues, EEP20/WG2/WP2 and the Secretariat are currently producing pdf copies of the selected articles and it is hoped that these will be available to be uploaded once the new website is operational.

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 it 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 EEP 21

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.

During general discussion Greg Hansen, Australian Maritime Safety Authority gave a presentation on the project to refurbish North Reef Lighthouse, also featured in an article in the IALA Bulletin 2013/1.

Christian Lagerwall of the Swedish Maritime Administration gave a short presentation on the history of Daymarks at EEP19 and the working group agreed that it would be of great value for a record of the development and use of daymarks to be made. EEP Committee members are requested to pass on any information that they have in relation to their daymarks with photographs

to Bob McIntosh or Christian Lagerwall. Once the scope of information is discovered then it will be possible to consider the preparation of a document. If there is sufficient information available this may be developed further as a future work item.

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'.

The Secretariat is requested to complete the production of pdf copies of the articles listed in EEP/WG2/WP2, IALA Bulletin Articles related to Heritage and Civil Engineering matters.

The Secretariat is requested to forward EEP20/WG2/WP2, IALA Bulletin Articles related to Heritage and Civil Engineering matters to EEP21.

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.

EEP Committee members are requested to pass on any information that they have in relation to their daymarks with photographs to Bob McIntosh or Christian Lagerwall.

Bob McIntosh and Christian Lagerwall are requested to consider the possibility of producing a document on the history and development of daymarks.

9.1.8 Seminar on Maintaining Historic Lighthouses (Activity 16.2.1)

A seminar Steering Group meeting took place in Athens in September 2012 and it proved very useful to members of the Steering Group to meet representatives from the host and the supporting organisations as well as viewing the venues.

The title of the seminar has been agreed as a Seminar on the Preservation of Lighthouse Heritage and will be held in Piraeus, Athens on the 3 to 7 June 2013. The event will be hosted by the Hellenic Navy Lighthouse Service and supported by the Hellenic Maritime Museum and the Aikaterini Laskaridis Foundation. Mr Panos Chiotis, of the Hellenic Navy Lighthouse Service, was unable to attend EEP19 but a Steering Group meeting, via GoToMeeting, was held with him and the details were finalised for the Seminar Flyer which has now been published and is available from the IALA office and Website. The seminar fee has been set at €600 to meet the standard IALA fee.

All speakers and attendees are asked to register as soon as possible ensure their place at the event. Equally as important all committee members are asked to circulate the flyer within their organisation, particularly to those who have a level of responsibility or interest in the heritage of lighthouses and encourage them to attend.

A further Steering Group meeting was held during EEP20 and it was agreed that the Technical Programme is now mostly finalised with a few names of speakers to be confirmed. It is anticipated that this will be another successful event and the Working Group endorsed the programmed as being comprehensive and varied and particularly pleasing with speakers from many different countries and regions.

Action Items

EEP Committee members are requested to circulate the heritage seminar brochure within their organisation, particularly to those who have a level of responsibility or interest in the heritage of lighthouses and encourage them to attend.

9.1.9 Review and update NAVGUIDE Section 8.11 (Activity 12.4.1)

This item was completed at EEP 18.

9.1.10 Future Work Programme 2014 – 2018

A significant discussion took place on possible future work items for this working group as well as discussion on how best the group would continue to function into the next work programme, beyond the conference in May 2014. These discussions are summarised in EEP20/WG2/WP3 Requirements for on-going Heritage links with IALA. It is anticipated that this document should inform the strategy discussions during the next PAP meeting.

9.1.11 Heritage and IALA

Following discussion at the pre-meeting for EEP20, when the position of heritage within IALA was raised, it was decided to prepare a Liaison Note for PAP on the requirement for ongoing Heritage links within IALA (EEP20/output/23).

Action item

The Secretariat is requested to forward the Liaison Note on the requirement for ongoing Heritage links within IALA (EEP20/output/23) to PAP25.

9.2 Civil Engineering and Structures (Task 10*)

9.2.1 Produce guideline on anti-fouling techniques (marine growth) for floating aids, boat landings, etc. (Activity 10.1.1)

Information on anti-fouling of buoys has been passed to working group 1 for further development. The remainder of the information, EEP18/WG2/WP8 on Anti-fouling in relation to slipways, jetties etc., has been retained and the information now available on IALA Wiki site under “anti-fouling on walkways and jetties”. This item is now considered to be complete for WG 2 input.

The following is a link to the IALAWiki site, http://www.iala-aism.org/wiki/ialawiki/index.php?title=Main_Page. Interested members should create an account. The administrator has been requested to create a Civil Engineering sub category so that similar items can be located in the same area.

9.2.2 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)

Nicolas Fady of CETMEF made a presentation on Humidity in Lighthouses during plenary at EEP19 and further discussion took place during the working group meeting. He has agreed to keep the WG up to date on any developments in the monitoring of the French Lighthouses. At EEP 20 he advised that they are still investigating a university link to take this matter forward.

He also advised that CETMEF have contributed to a Guideline on the Methodology of Repair to Lanterns, which is due to be finalised and published in September 2013.

Although no specific discussion took place on the current guideline, some of the discussions at EEP 19 were relevant for possible inclusion in relation to CETMEF's efforts in relation to monitoring humidity in their lighthouses.

In order to expand this guideline it will be necessary for EEP Committee members 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.

Action Items

EEP 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 requested to update the EEP Committee and Working Group 2 on the work being carried out by CETMEF on humidity monitoring of their lighthouses.

9.2.3 Provide guidance on protection and repair of Aid to Navigation Structures in Natural Disaster Areas (Activity 10.3.1)

Bob McIntosh previously updated the paper, 'The effect of Natural Disasters on AtoN Structures' (EEP18/9/6) with information received from New Zealand and some additional documentation 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 new IALA Website.

Action items

Bob McIntosh is requested to post the information from EEP18/9/6 on the IALA Wiki.

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.

9.2.4 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 new IALA Website, will also be investigated.

It was suggested at EEP18 that 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 21.

9.3 Workshops and Seminars (Task 16*)

See section 9.1.8.

10 WORKING GROUP 3 – ENVIRONMENT, QUALITY ASSURANCE, TRAINING & PUBLICATIONS

Working Group 3 was asked to respond to input papers EEP20/13, EEP20/14, EEP20/15, EEP20/23, EEP20/24, EEP20/36, EEP20/32, EEP20/34, EEP20/35, EEP20/36, EEP20/37, EEP20/38, EEP20/39, EEP20/40, EEP20/43, EEP20/46 and EEP20/47.

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

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

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

No further work was required as no input had been received.

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

The WG discussed this item further and due to no further intercessional input it could not be progressed further at EEP20.

Further inter-sessional work is encouraged to establish instructions and information for adding content to the IALA Wiki site.

Action Items

David Jeffkins is requested to further develop procedures in consultation with Omar Frits Eriksson for updating and adding new content to the IALA Wiki.

The objective of this work item is to populate the IALA Wiki with information on AtoN that is not included in official IALA documents. Information will be added as it becomes available.

The IALA Wiki was not reviewed during EEP20 but the WG was encouraged to continue use the IALA Wiki for developing IALA guidance documentation and posting relevant AtoN engineering documentation and information.

Action Item

EEP Committee members are requested to continue reviewing the IALA wiki (<http://www.iala-aism.org/wiki/ialawiki>) and use it for developing IALA guidance documentation and posting relevant AtoN engineering documentation and information.

10.2 Environment and Safety (Task 6*)

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

10.2.2 Revise Guideline 1036 IALA Green Guide (Activity 6.3.1)

10.2.3 Incorporate consideration of the implications of global warming on AtoN provision in the 'Green Guide' (Activity 6.2.1)

The objective of these work items is to provide guidance to members on environmental issues in the provision of AtoN, including the introduction of methods of determining and reducing the carbon footprint of AtoN services and exploring the importance of the implications of global warning on AtoN management.

WG felt that due to the inter-relation of these three tasks, they could be achieved through review of Guideline 1036 which has been tentatively renamed 'Environmental Management in Aids to Navigation.'

The intercessional work done by Adam Hay and Greg Hanson was noted. A brief presentation of the document was undertaken and the WG agreed that in principle it was suitable, but needed further refinement to ensure the document remained relevant to AtoN management, and not on environmental management in a broader sense.

A further revised version of Guideline 1036 was produced and provided as working paper EEP20/WG3/WP2 to be forwarded for further intercessional work and input to EEP21.

Committee members were requested to review EEP20/WG3/WP2 and provide comments to Adam Hay prior to EEP21.

Action Items

EEP Committee members are requested to review EEP20/WG3/WP2 and provide comments to Adam Hay.

EEP Committee members are requested to send any relevant information on evaluating the carbon footprint of their AtoN activities and initiatives that they have implemented to reduce emissions to Adam Hay.

EEP Committee members are requested to send any relevant information on experiences or studies on the implication of global warning on AtoN management.

Adam Hay is requested to co-ordinate updates to EEP120WG3/WP2 and submit it as input to EEP21.

When available, the Secretariat is requested to forward a revised EEP20/WG3/WP2 to EEP21.

10.2.4 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 advised that Trinity House is still in the process of revising and testing the suitability of their documentation and procedures pertaining to potable water supplies on lighthouse estates in regard to bringing them into a more useful, pragmatic document.

The importance of addressing the issue was discussed and due to status of the Trinity House review process, the task was forwarded to EEP21.

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 EEP21 if available.

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

The 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).

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

The WG notes Input Papers EEP20/13, EEP20/23, EEP20/24, EEP20/25, EEP20/32, EEP20/33, EEP20/34, EEP20/35, EEP20/37, EEP20/38, EEP20/43

10.3.2 Input papers related to Level 2 Technician Model Courses

The Working Group reviewed 11 input papers related to Level 2 model courses. These covered 10 courses, which had kindly been drafted as a result of output requests from EEP19.

A total of 10 new model courses were endorsed by the Committee and will be sent to the Academy for approval.

The WG considered a draft paper on Accreditation and Approval Process for Aids to Navigation Personnel Training (EEP20/output/19).

In discussion the issue of who are the Competent Authorities in IALA member states who are authorised to accredit training organisations was raised. This was noted by two of the IALA WWA Board members. Stephen Bennett pointed out that this issue is covered in WWA L1 model courses.

Action Items

The Secretariat is requested to forward EEP20/output/9 (Level 2 model course on An Introduction to Buoy Positions) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/10 (Level 2 model course on Introduction to Shore Marks) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/11 (Level 2 model course on Light Flashers, Lamp Changers and IPS Lanterns) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/12 (Level 2 model course on Course Lights and Marine Lanterns) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/13 (Level 2 model course on Rotating Beacons and Classic Lenses) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/14 (Level 2 model course on AIS AtoN Operations) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/15 (Level 2 model course on an Sound Signals) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/16 (Level 2 model course on Range, Sector and Leading Lights) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/17 (Level 2 model course on Preparation for surface coatings) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/18 (Level 1 model course on Risk Management) to the Academy for approval.

The Secretariat is requested to forward EEP20/output/19 draft Guideline on Accreditation and Approval Process for Aids to Navigation Personnel Training to the Academy for approval.

10.4 Product Procurement (Task 8*)

10.4.1 Maintain and develop product templates (Activity 8.2.1)

There were no further inter-sessional inputs on this activity.

10.4.2 Provide guidance on the procurement of AtoN equipment and systems.

James Collocott & Jørg Unterderweide worked on a paper to expound the virtues of procurement specifications and is Working Paper EEP20/WG3/WP1, for review at EEP21

Action item

The Secretariat is requested to forward EEP20/WG3/WP1 to EEP21.

10.5 Quality Management (Task 12*)

10.5.1 Review NAVGUIDE (Activity 12.1.3)

The WG notes input papers EEP20/44, EEP20/46, EEP20/47 and intercessional work done by Adrian Wilkins.

The objective of this work item is to assist the ANM Committee in updating the IALA NAVGUIDE. 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 various recommended revisions were discussed and approved by the WG and suggested amendments were prepared for ANM as Liaison Notes (EEP20/output/7 & EEP20/output/8).

The WG also noted during the review process that there are conflicting and seemingly uncontrolled electronic versions of the NAVGUIDE.

A Summary of the changes made include:

- The IALA WWA to be included in the revised Organisational Structure Diagram;
- A new category of IALA WWA publications needs to be added to the NAVGUIDE;
- IALA Documentation: A new category of IALA WWA publications will need to be added to Chapter 1;
- Chapter 8.12.3 - Revised text for the IALA WWA;
- Chapter 3.2.4 - Table delete all references to 'usual ranges so there is only one range calculation / definition. Nominal range table need d verification.
- Chapter 3.2.1 - Gas Lights - Revised content.
- Chapter 3.2.6 - Buoys - Revised content;
- Chapter 3.2.6 - Mooring Design and Swing Radius - Revised content and inclusion of a reference to the Guideline on Hydrostatic Buoy Design;
- Chapter 3.2 - Topmarks - Revised content;
- Chapter 6.5.2 - Considerations on Fog Detectors - Revision of content;
- Chapter 6.5.3 - Sound Signals in the World - Revision of content;
- Chapter 6.5.4 - Range of a Sound Signal - Recalculation of sound pressure levels and removal of Table 20;
- Chapter 7.2.1- Solar power - Revision of content;
- Chapter 7.2.2 - Aid to Navigation Application - Revision of content.
- Chapter 7.2.2 - Installations - Revision of content;
- Chapter 7.3.1 - Principal Types - Revision of content;
- Chapter 7.3.2 - Primary Cells - Revision of content;
- Chapter 7.3.3 - Internal Combustion Engine / Generators - Revision of content;
- Chapter 7.4 - Revision of content.

The action plan was updated for the remaining EEP sections of the NAVGUIDE and section co-ordinator were identified (EEP20/output/22).

Action Items

Committee members are requested to review the action plan and relevant sections of the NAVGUIDE and provide comments on any proposed changes and new graphical material e.g. photos, illustrations etc. to the section co-ordinators identified in EEP20/output/22.

Frank Hermann is requested to recalculate sound pressure levels for calculation audible signals and to provide details of any corrects required for input and review at EEP21.

The Secretariat is requested to forward the Liaison note on NAVGUIDE update on WWA (EEP20/output/7) to the ANM Committee.

The Secretariat is requested to forward the Liaison note on NAVGUIDE general updates (EEP20/output/8) to the ANM Committee.

The Secretariat is requested to forward the EEP NAVGUIDE Review Plan (EEP20/output/22) to the ANM Committee.

10.5.2 Develop Guideline on Key Performance Indicators (Activity 12.2.1)

The WG notes input paper EEP20/14.

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.

Further work was done and comments received from the Swedish Maritime Authority and these are being considered. To be progressed at EEP21

Action Item

EEP Committee members are requested to review working paper EEP20/WG3/WP3 on key performance indicators and provide comments to Errol Joppich, Richard Moore and Jørg Unterderweide before September 2013.

When available, the Secretariat is requested to forward a revised EEP20/WG3/WP3 on Key Performance Indicators to EEP21.

10.6 Workshops and Seminars (Task 16*)

No work was carried on this task.

11 WORKING GROUP 4 – LIGHT AND VISION (WG4)

WG4 was asked to respond to the following input papers

- EEP 20/16 EEP Document Ownership;
- EEP 20/17 Draft Revised Guideline 1041 on Sector Lights;
- EEP 20/18 Draft Guideline on the Illumination of Structures;
- EEP 20/45 Online buoy heel angle monitoring.

11.1 Engineering – Visual Aids (Task 2*)

This task was completed at EEP18.

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

11.2.1 Gather conspicuity documents in a suite of documents

The input paper (EEP 20/16) was reviewed. The group broadened the scope to cover all IALA documentation from EEP 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 spread sheet has been produced and Working Group Chairs are requested to review the documentation that they are responsible for and update the spread sheet with the documents that

need to be reviewed and what updates are required with a view to inform the next work programme.

Action Item

All EEP Working Group Chairmen are requested to review the documentation that they are responsible for and update the spread sheet with the documents that need to be reviewed and what updates are required with a view to inform the next work programme.

The Secretariat is requested to forward working paper EEP20/WG4/WP1 to EEP21.

11.2.2 Provide guidance on vertical divergence of lights, focal plane height, sector lights, daymark design, surface colours

11.2.2.1 Consider providing guidance on focal plane height of AtoN

Input paper EEP20/45 on Online buoy heel angle monitoring was noted. However, due to other elements of the work programme being considered at EEP20 it will be reviewed and incorporated into Guideline on Vertical Divergence at EEP21.

Action Items

The Secretariat is requested to forward working paper EEP20/WG4/WP2 on the use of inclinometers to monitor heel angle of buoys to EEP21.

Malcolm Nicholson is requested to provide an input paper to EEP21 on the vertical divergence of fixed lights.

11.2.2.2 Revise Guideline 1041 on Sector Lights to include new work on this subject

The working group considered the input papers from EEP18 on sector light measurement and installation procedures. A working paper has been produced combining these inputs to update the guideline.

Action items

Frank Hermann is requested to expand on the section on rotating optics and add a section on the fixed telescope method and input inter-sessionally to Malcolm Nicholson

Aivar Usk, is requested to expand the section on multiple source sector lights and input inter-sessionally to Malcolm Nicholson

Fernando Romero is requested expand the section on rotating colour switching sector light and provide input inter-sessionally to Malcolm Nicholson

Malcolm Nicholson is requested to edit, format and collate the inter-sessional work and input the draft guideline to EEP21

The Secretariat is requested to forward working paper EEP20/WG4/WP3 to EEP21.

11.2.2.3 Revise Recommendation E-108 on Surface Colours to include measurement of surface colours.

A section on measurement devices and colour swatches has been added and some minor amendments to the RAL colour collections.

Action Item

The Secretariat is requested to forward the draft revised Recommendation E-108 (EEP20/output/6) to Council for approval.

11.2.2.4 Illumination of Structures 1061

Following the input paper (EEP19/90) from Korea a discussion took place on how best to proceed

with updating IALA Guideline 1061 on Light Applications – Illumination of Structures. A previous input paper from Malcolm Nicholson was reviewed. A working paper was produced for further development at EEP21 (EEP20/WG4/WP4).

Action Items

Ju-Seop HAN is requested to submit an input paper to EEP21 on the Design Process of Illuminating Structures in Korea.

EEP Committee members who have had experience of illuminating structures are requested to submit input papers to EEP21 on design methodology.

The Secretariat is requested to forward working paper EEP19/WG4/WP4 on illumination of structures to EEP21.

11.3 Workshops and Seminars (Task 16*)

No work was carried out on this Task.

12 FUTURE WORK PROGRAMME

Following the reports by the Chairman there was a brief discussion on the future Committee work structure and the future Work Programme. The discussion continued in the closing plenary and gathered momentum, resulting in a number of valuable suggestions being recorded by the Chairman. As a result EEP20/C&VC/WP1 was produced, for further consideration at EEP21.

Action item

The Secretariat is requested to forward EEP20/C&VC/WP1 (Mindmap for future work items) to EEP1.

13 REVIEW OF OUTPUT AND WORKING PAPERS

During the reports by the Working Group Chairmen, the output papers were reviewed and their disposition agreed and the working papers noted.

14 ANY OTHER BUSINESS

14.1 The IALA Bulletin

The Chairman reminded the meeting that the editor of the IALA Bulletin has asked for suitable high-definition photographs / graphics that can be used, if necessary with attribution, in future editions and that members have been requested to suggest topics that the Bulletin should cover that are not currently included.

Action items

Committee members are requested to provide suitable high-definition photographs / graphics that can be used, if necessary with attribution, in future editions of the Bulletin.

Committee members are requested to propose topics for inclusion in the Bulletin that are not currently covered.

14.2 IALA NAVGUIDE

This agenda item was covered in the separate Working Groups.

14.3 Friends of IALA

It was suggested that IALA should see whether it would be possible to draw on the expertise of those members who had left the Committee but wished to continue supporting its activities,

perhaps by means of video conferencing.

Action item

The Secretariat is requested to consider how best to retain the support of ex-members of Committees

14.4 Mentoring

It was suggested that newcomers to Committees would benefit from an induction course and also mentoring, preferably by an experienced member speaking a language common to both people. This idea was warmly received and it was further suggested that it might be possible to hold an induction course during the Monday morning of meetings where there are new members expected.

Action item

The Secretariat is requested to consider the feasibility of holding an induction course and providing mentoring for new members of Committees.

14.5 IALA Experts

It was noted that the Chairman had been registered as an IALA expert and Stephen Bennett invited other members of the Committee to apply for registration, saying that he was hoping to achieve four from each Committee.

Action item

Committee members are requested to apply to be registered as IALA experts.

14.6 Introduction to IHO S-101

EEP20/WG1/WP2A refers.

Aivar Usk introduced the document, which looks daunting but the main areas of interest are contained in sections 17 – 19. Special attention was given to the features table. It was noted that this document is still in draft form and that the Committee have been requested to review it for action at EEP21. In this respect it was noted that the document refers to Navigation Aids and not Ads to Navigation.

14.7 GPS Synchronisation

Micel Cousquer introduced a presentation, which is available on the ftp server and the Committee website, concerning a new GPS synchronisation device known as Synapse (or ZTI 1250 V7). The device improves on previous performance and adds new functionality.

Michel Cousquer said that he would be happy to provide further information.

14.8 Bird Deterrence Update

Jørgen Royal Petersen provide a short update on the performance of the electronic bird deterrence device, which has been operating for two years and is performing well. It was noted that the equipment has no effect on installed radio antennae. The slides used are available on the ftp server and the Committee website.

14.9 Inisheer Light Measurement

Malcolm Nicholson provided the URL <http://youtu.be/gd6fodl5a9Q>, which provides a short video on light measurement narrated by Malcolm.

14.10 Chairman's update

The Chairman began by showing a short video of the launch of the DMA AIS satellite, including an illustration of its output. He then accessed the IALA Wikki and showed how to use it, saying that the Wikki is, for the moment, accessible to all visitors. This led to a request for Committee members to create an account, using a recognisable user name and providing an e-mail address.

The Chairman then opened the IALA Dictionary and showed its use, urging members to use it. He confirmed that illustrations can be uploaded.

Two videos from EU research projects were shown. The first was from project ACCSEAS and the second from project MONA LISA. Both videos are available from the FTP server and the Committee website.

15 DATE AND VENUE OF NEXT MEETING

It is intended that EEP21 will meet between 7 and 11 October 2013 at IALA, for the final meeting of the current Work Programme.

However, it was noted that the dates for EEP21 (7 – 11 October 2013) and ANM21 (14 – 18 October 2013) may be exchanged. A decision is expected at PAP25 (1 – 2 May 2013) and any changes will be notified to EEP and ANM Committee members as soon as they are known.

16 REVIEW OF SESSION REPORT

The report of the meeting (EEP20/output/1) was reviewed and approved by the Committee. The proposed changes to the Work Programme (EEP20/output/2) were reviewed and accepted.

Action item

The Secretariat is requested to forward the EEP20 Committee report (EEP20/output/1) to Council to note.

The Secretariat is requested to forward the proposed changes to the EEP Work Programme (EEP20/output/2) to Council to approve.

17 CLOSING OF THE MEETING

The Chairman acknowledged 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.

The Deputy-Secretary General noted that many members had travelled long distances to attend the meeting, acknowledging that all the work done is voluntary and how grateful IALA is for it. He remarked that much progress had been made during the week and that some impressive output documents had resulted. This led to a comment about the NAVGUIDE, updates for which had been produced during the meeting. He noted that after making a presentation on the NAVGUIDE to the staff of a National member, he had been pleasantly surprised at how much the NAVGUIDE

was appreciated by all the staff. Mike Card then said that he intended to ask the Policy Advisory Panel (PAP) about creating more such documents, suggesting that one might be a Light & Vision Handbook and perhaps another an e-Navigation Communications Handbook.

The Deputy-Secretary General ended by thanking everyone for their hard work during the week.

The Chairman acknowledged the departure of Richard Moore and thanked him for his many years of valuable service.

He concluded by saying that all were invited to EEP20, wished everyone a safe journey home and hoped to see everyone at the next and final meeting of the Work Programme, having completed much inter-sessional work!

18 LIST OF ANNEXES

1 Agenda

A copy of the agenda is at Annex A.

2 Participants

A list of participants is at Annex B.

3 Working Group Participants

A list of working group participants is at Annex C.

4 Input Papers

A list of input papers is at Annex D.

5 Output and Working papers

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

6 Action Items

A list of action items is at Annex F.

7 Developments in lighthouse conservation

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

ANNEX A AGENDA**20th Meeting of the Engineering, Environmental & Preservation of Historic Lighthouses Committee**

The 20th meeting of the **EEP Committee** will be held from 15 – 19 April, 2013 at IALA, St Germain en Laye, France.

The opening plenary will commence at 1300 on Monday, 15 April and the closing plenary will end at approximately 1300 on Friday, 19 April.

Committee Chair, Vice-Chair and Working Group Chairpersons are requested to meet at 0900 on Monday, 15 April.

Change from EEP19

AGENDA

1. Approval of the agenda
 - 1.1. Apologies
 - 1.2. Programme for the week
 - 1.3. Administration & safety brief
2. Review of action items from last meeting
3. Review of input papers
4. Reports from other bodies:
 - 4.1. Report from IALA Council – 54th Session, December 2012
 - 4.2. Report from PAP24, October 2012
 - 4.3. Report from MSC91, October 2012
5. Reports from Rapporteurs:
 - 5.1. Developments in Aids to Navigation (M1*) Adrian Wilkins
 - 5.2. Developments in Renewable Energy Sources (M2*) Moray Waddel
 - 5.3. Developments in Battery Technology (M3*) Moray Waddel
 - 5.4. Developments in New Light Sources (M4*) Malcolm Nicholson
 - ~~5.5. IALA Certification Process (M5*) (Task removed at C52)~~
 - 5.6. CIE-IALA Liaison (M6*) Malcolm Nicholson
 - 5.7. IALA Dictionary (M7*) Ómar Frits Eriksson
6. Presentations
 - 6.1. Brief on WWA Stephen Bennett
 - 6.2. IHO S-100 GI registry Malcolm Nicholson
 - 6.3. Plastic repair & the application of position names on plastic Sipke Hoekstra
 - 6.4. Illumination of Structures Frank Hermann
 - 6.5. CIE overview and Division 2 Peter Blattner
 - 6.6. CIE Division 4 Yandan Lin
7. Establish Working Groups
8. Working Group 1 – AtoN infrastructure design and maintenance (WG1)
 - 8.1. **AtoN Engineering (Task 2*)**
 - 8.2. **Power Systems and Energy Storage (Task 4*)**

- 8.3. **Remote Control and Monitoring (Task 5*)**
- 8.4. **Risk Assessment Techniques in AtoN Design and maintenance (Task 11*)**
- 8.5. **e-Navigation across Committees (Task 13*)**
- 8.6. **Polar Engineering (Task 14*)**
- 8.7. **The use of Audible Signals as aids to navigation (*in conjunction with ANM*) (Task 15*)**
- 8.8. **Workshops and Seminars (Task 16*)**
9. **Working Group 2 – Heritage, Conservation and Civil Engineering (WG2)**
 - 9.1. **Heritage and Conservation (Task 9*)**
 - 9.2. **Civil Engineering and Structures (Task 10*)**
 - 9.3. **Workshops and Seminars (Task 16*)**
10. **Working Group 3 - Environment, quality assurance, training and publications (WG3)**
 - 10.1. **Knowledge Sharing / Knowledge Management, taking into account open source software (Task 1*)**
 - 10.2. **Environment and safety (Task 6*)**
 - 10.3. **Aids to Navigation Training, IALA WWA (Task 7*)**
 - 10.4. ~~**Product Certification (Task 8*)**~~ **(Task removed at C52)**
 - 10.5. **Quality Management (Task 12*)**
 - 10.6. **Workshops and Seminars (Task 16*)**
11. **Working Group 4 – Light and Vision (WG4)**
 - 11.1. **Engineering – Visual Aids (Task 2*)**
 - 11.2. **Visual perception of lights and daymarks (Task 3*)**
 - 11.3. **Workshops and Seminars (Task 16*)**
12. **Future Work Programme (2014 – 2018)**
13. **Review of output and working papers**
14. **Any other business**
 - 14.1. **The IALA Bulletin**
 - 14.2. **IALA NAVGUIDE**
15. **Date and venue of next meeting**
16. **Review of session report**

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ANNEX C WORKING GROUP PARTICIPANTS**Working Group 1 AtoN infrastructure design and maintenance**

	Name	Organisation / Country
1	Adrian Wilkins (Chairman)	Pharos Marine / England
2	Adam Hay (Rapporteur)	Nawae Construction / Papua New Guinea
3	Mahdi Al Mosawi	MENAS / Bahrain
4	Yves-Marie Blanchard	CETMEF / France
5	James Collocott	SAMSA / South Africa
6	Michel Cousquer	CETMEF / France
7	Peter Dobson	Trinity House / England
8	Jeon Jin Gee	MOF / Republic of Korea
9	Ju-Seop Han	KAAN / Republic of Korea
10	Greg Hansen	AMSA / Australia
11	Frank Hermann	German Traffic Technologies Centre
12	Javier Fernandez Segura	Peruvian Navy
13	Sipke Hoekstra	North Sea Directorate / Netherlands
14	Tamotsu Ikeda	JANA / Japan
15	Errol Joppich	AMS / Australia
16	Leif Arne Larsen	NCA / Norway
17	Sami Lasma	FTA / Finland
18	Yang Liang	China MSA
19	Jonas Lindberg	Sabik Oy / Finland
20	Paul Longley	Carmanah technologies / Canada
21	Simon Millyard	Trinity House / England
22	Richard Moore	Canadian Coast Guard
23	Amadou Ndiaye	Port Autonome de Dakar / Senegal
24	Malcolm Nicholson	GLA R&RNAV / UK
25	Joaquim Pessoa	Portuguese Lighthouse Authority
26	Jørgen Royal Petersen	Danish Maritime Authority
27	Paulo Mauricio Rego	CAMR / Brazil
28	Phillipe Renaudin	CETMEF / France
29	Astrid Röder	WSV / Germany
30	Fernando Romero	Mediterraneo Senales Maritimas / Spain
31	Manuel Santos	Direcção de Faróis / Portugal
32	Jørg Unterderweide	German Federal Waterways Administration
33	Aivar Usk	Cybernetica AS / Estonia

34	Shen Zhijiang	China Maritime Safety Administration
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Working Group 2 Heritage, conservation and civil engineering

	Name	Organisation / Country
1	Bob McIntosh (Chair)	Northern Lighthouse Board / Scotland
2	Panos Chiotis	Hellenic Navy Lighthouse Service / Greece
3	Jo van der Eynden	Norwegian Lighthouse Museum
4	Nicolas Fady	CETMEF / France
5	Greg Hansen	Australian Maritime Safety Authority
6	Ingvild Kragset	Norwegian Coastal Administration
7	Christian Lagerwall	SMA / Sweden
8	Yang Liang	China MSA
9	Vincent Roget	Gisman / France

Working Group 3 Environment, quality assurance, training and publications

	Name	Organisation / Country
1	Simon Millyard (Chair)	Trinity House / England & Wales
2	Adrian Wilkins (Vice Chair)	Pharos Marine / UK
3	Abdul Aziz Al Hammad	ADPC / Abu Dhabi
4	Stephen Bennett	IALA
5	James Collocott	SAMSA / South Africa
6	Michel Cousquer	CETMEF / France
7	Nicolas Fady	CETMEF / France
8	Adam Hay	NAWAE / Papua New Guinea
9	Richard Moore	CCG / Canada
10	Amadou Ndiaye	Port Autonome de Dakar / Senegal
11	Joaquim Pessoa	Portuguese Lighthouse Authority
12	Paulo Mauricio Rego	CAMR / Brazil
13	Astrid Röder	WSV / Germany
14	Jörg Unterderweide	WSV / Germany
15	Shen Zhijiang	China MSA

Working Group 4 Light and Vision

	Name	Organisation
1	Malcolm Nicholson (Chairman)	GLA R&RNAV / UK & Ireland
2	Mahdi Al Mosawi	MENAS / Bahrain
3	Rumen Arabadzhlev	Bulgarian Ports Company
4	Yves-Marie Blanchard	CETMEF / France
5	Peter Dobson	Trinity House / UK
6	Ju-Seop Han	KAAN / Republic of Korea
7	Greg Hansen	AMSA / Australia
8	Frank Herman	Waterways & Shipping Administration / Germany
9	Sipke Hoekstra	North Sea Directorate / Netherlands
10	Jin-Gee Jeon	MOF / Republic of Korea
11	Errol Joppich	AMS / Australia
12	Leif Arne Larsen	NCA / Norway
13	Sami Lasma	FTA / Finland
14	Jonas Lindberg	Sabik Oy / Finland
15	Paul Longley	Carmanah Technologies / Canada
16	Vincent Roget	GISMAN / France
17	Fernando Romero	Mediterraneo Senales Maritimas / Spain
18	Jørgen Royal Petersen	Danish Maritime Authority
19	Philippe Renaudin	CETMEF / France
20	Manuel Santos	Direcção de Faróis / Portugal
21	Aivar Usk	Cybernetica AS / Estonia
22	Liang Yang	China MSA

ANNEX D LIST OF INPUT PAPERS

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

Meeting	Paper Number	Title / Author (if required)	Agenda Item	Presented by / WG	Posting
		Report of EEP19		ALL	1
		EEP input paper template		ALL	1
EEP20/	1 rev7	Agenda	1	OFE / TCM	Late
EEP20/	2	Action Items from EEP19	2	OFE / TCM	1
EEP20/	3 rev7	Papers' List (Finalised at pre-meeting)	3	OFE / TCM	Late
EEP20/	4	Programme for the week (Finalised at pre-meeting)	3	OFE / TCM	1
EEP20/	5	Proposed Table of Contents for Guideline on Design and Construction of AtoN in Cold Regions	8.1	1	1
EEP20/	6	Draft Guideline on Hydrostatic Buoy Design	8.1	1	1
EEP20/	7	Risk Assessment on IALA Guideline on Risk Management in Design & Maintenance	8.4	1	1
EEP20/	8	Draft revised Guideline 1012 Ed6 - Comentarios Arlindo	8.4	1	1
EEP20/	9	Extreme Ice Forces on a lighthouse in the Bothnian Bay	8.6	1	1
EEP20/	10	Ice Force Studies in the Bothnian Bay Phase 2 1989-94	8.6	1	1
EEP20/	11	Main Report on Impact of ice on Swedish offshore lighthouses 1983	8.6	1	1
EEP20/	12 rev1	Heritage seminar Technical Programme	9.3	2	Late
EEP20/	13	L2 Course schedule October 2012	10.3	3	1
EEP20/	14	Draft Guideline on KPI version 1.2	10.5	3	1
EEP20/	15	Draft Guideline on Cost Engineering of Short Range AtoN and Asset Management	10.5	3	1
EEP20/	16	EEP Document Ownership Master	11	4	1
EEP20/	17	Draft revised Guideline 1041 on Sector Lights	11.2	4	1
EEP20/	18	Draft Guideline on the Illumination of Structures	11.2	4	1
EEP20/	19	Report C54	4.1	OFE / TCM	1
EEP20/	20	Report PAP24	4.2	OFE / TCM	1
EEP20/	21	Report MSC91	4.3	OFE / TCM	1
EEP20/	22	EEP Work Programme	13	OFE	1
EEP20/	23	L2 Model Course Module 1.9 on an Introduction to buoy positions	10.3	3	1
EEP20/	24	L2 Model Course Module 1.14 on an introduction to shore marks	10.3	3	1
EEP20/	25	L2 Model Course Module 4 on Sound Signals	10.3	3	1
EEP20/	26	Master List of Guidelines	12	OFE	1
EEP20/	27	Master List of IALA Recommendations	12	OFE	1
EEP20/	28	Master List of Model Courses	12	OFE	1

Meeting	Paper Number	Title / Author (if required)	Agenda Item	Presented by / WG	Posting
EEP20/	29	Master List of Other publications	12	OFE	1
EEP20/	30	Updating of IALA publications	12	OFE	2
EEP20/	31 rev1	Meeting dates, revised December 2012	INF	ALL	Late
EEP20/	32	L2 Model Courses for review by EEP20	10.3	3	3
EEP20/	33	L2 Model Course Light Flashers Lamp changers and IPS lanterns	10.3	3	3
EEP20/	34	L2 Model Course Lights and Marine Lanterns	10.3	3	3
EEP20/	35	L2 Model Course on Rotating Beacons and Classic lenses	10.3	3	3
EEP20/	36	Draft Guideline on AtoN Training and Accreditation	10.3	3	3
EEP20/	37	IALA WWA Level 2 Model Course - AIS AtoN Operations - Technicians Level 2	10.3	3	3
EEP20/	38	IALA WWA Level 2 Model Course - AIS Base Station - Technicians Level 2	10.3	3	3
EEP20/	39	Draft L1 Model course IALA WWA.L1.3 on Risk Management	10.3	3	4
EEP20/	40	Level 1 Risk Management Model Course	10.3	3	4
EEP20/	41	Best Practice - Conference 2014	INF	All	4
EEP20/	42	Best practices submission form	INF	All	4
EEP20/	43	Level 2 Model Course on range, sector and leading lights	10.3	3	4
EEP20/	44	NAVGUIDE updates section 7_0	14.2	1	4
EEP20/	45	Online buoy heel angle monitoring	11.1	4	4
EEP20/	46	NAVGUIDE - IALA WWA input cover note	14.2	3	5
EEP20/	47	NAVGUIDE - IALA WWA input	14.2	3	5
EEP20/	48	Antifouling paint	8.1	1	5
EEP20/	49	Terms of reference and work program for a working group on testbeds	8.5	1	5
EEP20/	50	Discussion paper on testbeds	8.5	1	5
EEP20/	51	Liaison note from e-NAV13 on e-Navigation roadmap	8.5	1	5
EEP20/	52	Liaison note from e-NAV13 on Disaster recovery	8.1	1	5

ANNEX E 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
EEP20/output/1	Draft Report of EEP20	To Council to note
EEP20/output/2	Information paper to Council – Changes to the Work Programme	To Council to approve
EEP20/output/3	Workshop Proposal on the challenges of providing AtoN services in polar regions	To Council to approve
EEP20/output/4	Draft revised Guideline No 1012 on Lightning Protection	To Council to approve
EEP20/output/5	Draft Guideline on Hydrostatic Buoy Design	To Council to approve
EEP20/output/6	Draft revised E-108 on Surface Colours used as Visual Signals on AtoN	To Council to approve
EEP20/output/7	Liaison Note to ANM on the NAVGUIDE Update for IALA WWA	To ANM20
EEP20/output/8	Liaison Note to ANM on the NAVGUIDE Update - Genera	To ANM20
EEP20/output/9	Draft L2 Model Course Module 1.9 on an Introduction to buoy positions	To WWA to approve
EEP20/output/10	Draft L2 Model Course Module 1.14 on an Introduction to shore marks	To WWA to approve
EEP20/output/11	Draft L2 Model Course Light Flashers Lamp changers and IPS lanterns	To WWA to approve
EEP20/output/12	Draft L2 Model Course Lights and Marine Lanterns	To WWA to approve
EEP20/output/13	Draft L2 Model Course on Rotating Beacons and Classic Lenses	To WWA to approve
EEP20/output/14	Draft L2 Model Course on AIS AtoN Operations	To WWA to approve
EEP20/output/15	Draft L2 Model course on Sound Signal	To WWA to approve
EEP20/output/16	Draft L2 Model Course on range, sector and precision direction lights	To WWA to approve
EEP20/output/17	Draft L2 Model Course Module 5.1-2 on surface preparation before coating	To WWA to approve
EEP20/output/18	Draft L1 Model Course 1.3 on Risk Management	To WWA to approve
EEP20/output/19	Draft Guideline on AtoN Training and Accreditation	To Council to approve
EEP20/output/20	Liaison note to e-NAV on e-Navigation interface	To e-NAV14
EEP20/output/21	Liaison note to e-NAV & ANM on Disaster Recovery	To e-NAV14 & ANM20

Number	Title	Status
EEP20/output/22	EEP NAVGUIDE review plan	To ANM20
EEP20/output/23	Liaison note to PAP on the requirement for ongoing Heritage links within IALA	To PAP25

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

Number	Title	Status
EEP20/WG1/WP1	Proposed Topics for inclusion in a Guideline on Design and Construction of AtoN in Cold Regions	To EEP21
EEP20/WG1/WP2	Liaison note to e-NAV on e-Navigation and the IHO Registry	To EEP21
EEP20/WG1/WP2A	S101 Data Classification and Encoding Guide - TSMAD Review	To EEP21
EEP20/WG1/WP3	Antifouling section update for Guideline 1015	To EEP21
EEP20/WG1/WP4	Draft Guideline on Theft and Vandalism Deterrents	To EEP21
EEP20/WG2/WP1	A History of Floating Aids to Navigation	To EEP21
EEP20/WG2/WP2	IALA Bulletin Articles related to Heritage and Civil Engineering matters	To EEP21
EEP20/WG3/WP1	Work item 8.1.1	To EEP21
EEP20/WG3/WP2	Draft revised Guideline 1036	To EEP21
EEP20/WG3/WP3	Draft Guideline on KPI	To EEP21
EEP20/WG4/WP1	EEP Document Ownership Master – reviewed 17Apr13	To EEP21
EEP20/WG4/WP2	Draft Guideline on the Illumination of Structures	To EEP21
EEP20/WG4/WP3	Draft revised Guideline 1041 on Sector Lights	To EEP20
EEP20/WG4/WP4	Revision of Guideline 1061	To EEP20
EEP20/C&VC/WP1	Future work items - Mindmap	To EEP21

Note

EEP20/WG3/WP2 is not yet available.

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

1	The Secretariat is requested to forward the draft Guideline for Application of AIS on Buoys (EEP19/output/3) to the IALA Council for approval.	7
2	The Secretariat is requested to forward the draft Guideline on Lightning Protection (EEP20/output/4) to the IALA Council for approval.	11
3	The Secretariat is requested to forward the draft Guideline for Application of AIS on Buoys (EEP19/output/7) to the IALA Council for approval.	11
4	The Secretariat is requested to forward the draft Liaison Note to the e-NAV Committee (EEP20/WG1/WP2) to EEP21.	12
5	The Secretariat is requested to forward EEP20/WG1/WP2A (S101 Data Classification and Encoding Guide) to EEP21	12
6	The Secretariat is requested to forward the Liaison Note on e-Navigation requirements and interfaces (EEP20/output/20) to the e-NAV Committee.	12
7	The Secretariat is requested to forward the Liaison Note on Disaster Recovery (EEP20/output/19) to the e-NAV and ANM Committees.	12
8	The Secretariat is requested to forward the draft Guideline on Hydrostatic Buoy Design (EEP20/output/5) for Council approval.	13
9	The Secretariat is requested to convert EEP20/7 into an Information Paper for possible posting on the IALA Wiki.	14
10	The Secretariat is requested to forward output paper EEP20/output/3 (Workshop proposal) to Council for approval.	14
11	The Secretariat is requested to forward working paper EEP/WG1/WP1 (proposed contents of an IALA Guideline) to the polar Engineering Workshop.	14
12	The Secretariat is requested to forward Working Paper EEP20/WG1/WP3 on anti-fouling to EEP21.	15
13	The Secretariat is requested to forward working paper EEP20/WG1/WP4 on theft and vandalism to EEP21.	15
14	The Secretariat is requested to inform the Heritage Seminar steering group that it is requested to consider the possibilities of inviting Adrian Wilkins to attend the event to introduce the History of Floating Aids to Navigation to the attendees.	17
15	The Secretariat is requested to forward EEP20/WG2/WP1, History of Floating Aids to Navigation to EEP21.	17
16	The Secretariat is requested to complete the production of pdf copies of the articles listed in EEP/WG2/WP2, IALA Bulletin Articles related to Heritage and Civil Engineering matters.	19
17	The Secretariat is requested to forward EEP20/WG2/WP2, IALA Bulletin Articles related to Heritage and Civil Engineering matters to EEP21.	19
18	The Secretariat is requested to forward the Liaison Note on the requirement for ongoing Heritage links within IALA (EEP20/output/23) to PAP25.	20
19	When available, the Secretariat is requested to forward a revised EEP20/WG3/WP2 to EEP21.	23
20	The Secretariat is requested to forward EEP20/output/9 (Level 2 model course on An Introduction to Buoy Positions) to the Academy for approval.	24
21	The Secretariat is requested to forward EEP20/output/10 (Level 2 model course on Introduction to Shore Marks) to the Academy for approval.	24
22	The Secretariat is requested to forward EEP20/output/11 (Level 2 model course on Light Flashers, Lamp Changers and IPS Lanterns) to the Academy for approval.	24

- 23 The Secretariat is requested to forward EEP20/output/12 (Level 2 model course on Course Lights and Marine Lanterns) to the Academy for approval. 24
- 24 The Secretariat is requested to forward EEP20/output/13 (Level 2 model course on Rotating Beacons and Classic Lenses) to the Academy for approval. 24
- 25 The Secretariat is requested to forward EEP20/output/14 (Level 2 model course on AIS AtoN Operations) to the Academy for approval. 24
- 26 The Secretariat is requested to forward EEP20/output/15 (Level 2 model course on an Sound Signals) to the Academy for approval. 24
- 27 The Secretariat is requested to forward EEP20/output/16 (Level 2 model course on Range, Sector and Leading Lights) to the Academy for approval. 24
- 28 The Secretariat is requested to forward EEP20/output/17 (Level 2 model course on Preparation for surface coatings) to the Academy for approval. 24
- 29 The Secretariat is requested to forward EEP20/output/18 (Level 1 model course on Risk Management) to the Academy for approval. 24
- 30 The Secretariat is requested to forward EEP20/output/19 draft Guideline on Accreditation and Approval Process for Aids to Navigation Personnel Training to the Academy for approval. 24
- 31 The Secretariat is requested to forward EEP20/WG3/WP1 to EEP21. 25
- 32 The Secretariat is requested to forward the Liaison note on NAVGUIDE update on WWA (EEP20/output/7) to the ANM Committee. 26
- 33 The Secretariat is requested to forward the Liaison note on NAVGUIDE general updates (EEP20/output/8) to the ANM Committee. 26
- 34 The Secretariat is requested to forward the EEP NAVGUIDE Review Plan (EEP20/output/22) to the ANM Committee. 26
- 35 When available, the Secretariat is requested to forward a revised EEP20/WG3/WP3 on Key Performance Indicators to EEP21. 26
- 36 The Secretariat is requested to forward working paper EEP20/WG4/WP1 to EEP21. 27
- 37 The Secretariat is requested to forward working paper EEP20/WG4/WP2 on the use of inclinometers to monitor heel angle of buoys to EEP21. 27
- 38 The Secretariat is requested to forward working paper EEP20/WG4/WP3 to EEP21. 27
- 39 The Secretariat is requested to forward the draft revised Recommendation E-108 (EEP20/output/6) to Council for approval. 27
- 40 The Secretariat is requested to forward working paper EEP19/WG4/WP4 on illumination of structures to EEP21. 28
- 41 The Secretariat is requested to forward EEP20/C&VC/WP1 (Mindmap for future work items) to EEP1. 28
- 42 The Secretariat is requested to consider how best to retain the support of ex-members of Committees 29
- 43 The Secretariat is requested to consider the feasibility of holding an induction course and providing mentoring for new members of Committees. 29
- 44 The Secretariat is requested to forward the EEP20 Committee report (EEP20/output/1) to Council to note. 30
- 45 The Secretariat is requested to forward the proposed changes to the EEP Work Programme (EEP20/output/2) to Council to approve. 30

Action Items for Members

- 46 The members of the Committee are requested to review sections 17 – 19 of EEP20/WG1/WP2A (S101 Data Classification and Encoding Guide) and provide input to EEP21. 12
- 47 Sipke Hoekstra is requested to continue investigations into the specification of polyethylene moulding materials. 12

- 48 Paulo Mauricio Rego is requested to convert the buoy questionnaire spreadsheet into a format suitable for use in the relevant Guidelines. 13
- 49 CETMEF is requested to upload the video on 'in water buoy stability evaluation' to YouTube and provide the Secretariat with a link to it. 13
- 50 Adrian Wilkins is requested to liaise with Mobilis regarding the Committee's queries and report to EEP21. 13
- 51 EEP Committee Members are asked to identify possible work activities, for further discussion at EEP21. 14
- 52 EEP Committee Members wishing to forward the information in writing are requested to provide the information inter-sessionally to Adrian Wilkins. 15
- 53 The WG is requested to provide further inter-sessional review on this issue and provide input for further development at EEP21. 15
- 54 WG2 members are requested to consider how the existing IALA Lighthouse Conservation Manual and recently published guidelines could be revised as part of a new work programme for 2014-2018. 16
- 55 Adrian Wilkins is requested to review the Appendices and include them in the History of Floating Aids to Navigation to produce a final Version 1 of the document for publication. 17
- 56 Adrian Wilkins and Bob McIntosh are requested to investigate possibilities of obtaining funding for publication of the History of Floating Aids to Navigation booklet. 17
- 57 Jo van der Eynden is requested to review the questionnaire on Complementary Uses of Historic Lighthouses as soon as possible and circulate it amongst WG2 members for comment. 18
- 58 When available, WG2 members are requested to review the questionnaire circulated by Jo van der Eynden and return comments to him in advance of EEP21. 18
- 59 Jo van der Eynden is requested to incorporate WG2 members' comments and submit a revised questionnaire on Complementary Uses of Historic Lighthouses to EEP21 for committee approval. 18
- 60 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. 19
- 61 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'. 19
- 62 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. 19
- 63 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. 19
- 64 EEP Committee members are requested to pass on any information that they have in relation to their daymarks with photographs to Bob McIntosh or Christian Lagerwall. 19
- 65 Bob McIntosh and Christian Lagerwall are requested to consider the possibility of producing a document on the history and development of daymarks. 19
- 66 EEP Committee members are requested to circulate the heritage seminar brochure within their organisation, particularly to those who have a level of responsibility or interest in the heritage of lighthouses and encourage them to attend. 20
- 67 EEP 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. 21
- 68 WG2 members are requested to consider options for developing this guideline when additional information becomes available. 21
- 69 Nicolas Fady is requested to update the EEP Committee and Working Group 2 on the work being carried out by CETMEF on humidity monitoring of their lighthouses. 21

70	Bob McIntosh is requested to post the information from EEP18/9/6 on the IALA Wiki.	21
71	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.	21
72	EEP Committee members are requested to submit examples of their building maintenance specifications to Bob McIntosh or as input to EEP 21.	21
73	David Jeffkins is requested to further develop procedures in consultation with Omar Frits Eriksson for updating and adding new content to the IALA Wiki.	22
74	EEP Committee members are requested to continue reviewing the IALA wiki (http://www.iala-aism.org/wiki/ialawiki) and use it for developing IALA guidance documentation and posting relevant AtoN engineering documentation and information.	22
75	EEP Committee members are requested to review EEP20/WG3/WP2 and provide comments to Adam Hay.	23
76	EEP Committee members are requested to send any relevant information on evaluating the carbon footprint of their AtoN activities and initiatives that they have implemented to reduce emissions to Adam Hay.	23
77	EEP Committee members are requested to send any relevant information on experiences or studies on the implication of global warning on AtoN management.	23
78	Adam Hay is requested to co-ordinate updates to EEP120WG3/WP2 and submit it as input to EEP21.	23
79	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 EEP21 if available.	23
80	Committee members are requested to review the action plan and relevant sections of the NAVGUIDE and provide comments on any proposed changes and new graphical material e.g. photos, illustrations etc. to the section co-ordinators identified in EEP20/output/22.	26
81	Frank Hermann is requested to recalculate sound pressure levels for calculation audible signals and to provide details of any corrects required for input and review at EEP21.	26
82	EEP Committee members are requested to review working paper EEP20/WG3/WP3 on key performance indicators and provide comments to Errol Joppich, Richard Moore and Jørg Unterderweide before September 2013.	26
83	All EEP Working Group Chairmen are requested to review the documentation that they are responsible for and update the spread sheet with the documents that need to be reviewed and what updates are required with a view to inform the next work programme.	27
84	Malcolm Nicholson is requested to provide an input paper to EEP21 on the vertical divergence of fixed lights.	27
85	Frank Hermann is requested to expand on the section on rotating optics and add a section on the fixed telescope method and input inter-sessionally to Malcolm Nicholson	27
86	Aivar Usk, is requested to expand the section on multiple source sector lights and input inter-sessionally to Malcolm Nicholson	27
87	Fernando Romero is requested expand the section on rotating colour switching sector light and provide input inter-sessionally to Malcolm Nicholson	27
88	Malcolm Nicholson is requested to edit, format and collate the inter-sessional work and input the draft guideline to EEP21	27
89	Ju-Seop HAN is requested to submit an input paper to EEP21 on the Design Process of Illuminating Structures in Korea.	28
90	EEP Committee members who have had experience of illuminating structures are requested to submit input papers to EEP21 on design methodology.	28
91	Committee members are requested to provide suitable high-definition photographs / graphics that can be used, if necessary with attribution, in future editions of the Bulletin.	28
92	Committee members are requested to propose topics for inclusion in the Bulletin that are not currently covered.	28
93	Committee members are requested to apply to be registered as IALA experts.	29

ANNEX G 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 EEP20.

Norway

Plans for the maintenance and management of 10 of the listed lighthouses are now finished, and have been presented to the heritage authorities. 10 more plans will be finished during the year.

The lighthouse authorities and the lighthouse museum is now producing "official" information-boards for the listed lighthouses. All the lighthouses of Vest-Agder county will have their sign-boards before summer.

The pilot for the project "Documentation and presentation of the maritime cultural landscape" is now finished, and will now be expanded on a national scale, as a co-operation between the lighthouse museum and a network of 25 maritime museums along the coast. A co-operation is also established between the lighthouse museum and NRK - the national broadcasting company.

The lighthouse administration, the lighthouse museum and the Norwegian Lighthouse Society has arranged a national seminar on lighthouse history and alternative use, aimed especially at the local lessees.

A new permanent exhibition on Norwegian lighthouse history was opened in Dalsfjord on the west coast last November. The exhibition, which is part of the national lighthouse museum, is focusing on the building of lighthouses 1814 - 1905 as part of the national struggle for independence, and on the people who were actually doing the work and their working conditions.

The exhibition of Norwegian lighthouses presented at the French lighthouse museum at Oussant, has been extended and is now 'touring' several museums and lighthouses in Brittany.

Sweden

As described before, the historical lighthouses in Sweden have been the subject of several investigations. A still on-going investigation is the so-called Cultural Property investigation, which suggested that a large number of lighthouses would be maintained by the state in the long term.

The government has not yet made any decision on the cultural property investigation that will 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 needs. The point is that the State shall continue to 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 is to report this autumn.

Meanwhile four beacons and a dwelling house have been transferred to other owners during the last year.