

IALA COUNCIL
64th session



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Republic of Korea

11 – TECHNICAL ACTIVITIES

11.2 – ENG

11.2.7 – Summary report on the IALA Workshop on Sustainable Light & Power for the next Generation

Note by the Secretariat

1. BACKGROUND

An IALA workshop on the subject of Sustainable Light and Power for the Next Generation in the IALABATT / IALALITE series was hosted by the German Federal Waterways & Shipping Administration in Koblenz, Germany from 20th to 24th March 2017.

The workshop was attended by 78 delegates, representing 23 countries, including 57 delegates from national members, 3 associate members, 10 industrial members, and 5 from other organisations.

The full Workshop report is available from:

<http://www.iala-aism.org/product/report-iala-workshop-sustainable-light-power-next-generation/>

2. WORK CARRIED OUT

The workshop theme was supported by a comprehensive programme of presentations from manufacturers, AtoN providers and users which informed the workshop of current experiences and emerging technology. The workshop was structured with presentations on relevant topics on days 1 and 2 with a technical study tour on day 3 followed by working group sessions on days 3 and 4. Output work was reviewed and highlights were agreed on day 5. Attendees enjoyed a welcome reception on day 1, and a visit to the Deinhard Champagne Caves on day 2.

Topics covered included lights & signalling; communications; PV solar, wave, wind and fuel cell power generators; hybrid power systems; battery storage; theft & vandalism, mercury replacement; solar calculation design; the mariners perspective and climate change.

Anthropogenic climate change was presented to set the scene for the need for environmentally responsible AtoN provision.

Developments in battery storage technology combined with improving solar PV cell performance offer improved energy capacity which, when adopted alongside sound design and maintenance practices, promote the most environmentally responsible AtoN provision.

Lower energy requirements for lights and communications systems provide opportunities for enhanced monitoring and lower operating costs while practical applications to deter theft and vandalism were explored to support the improved availability of AtoN.

Participants attended a most informative technical tour of the German Federal Waterways and Shipping Administration laboratories in Koblenz and a range of demonstrations covering light measurement, sector lights, radar assessment, colour and environmental aging were given to the delegates, all of whom were impressed with the facility and the technical competence and generosity of the hosts.



3. KEY OUTCOMES FROM THE SESSION

Four IALA Guidelines on AtoN lights were reviewed. Two of these were amalgamated and three revised draft Guidelines relating to AtoN lights were produced. Three revised Guidelines on AtoN power systems were produced and the IALA Excel-based calculator for designing PV solar power systems was updated

The output documents were forwarded to the ENG Committee 6th session (ENG6) for further development and completion.

4. WORKSHOP HIGHLIGHTS

The workshop generated seven highlights.

1. Batteries employing new technology are a viable option for AtoN power systems but there are important storage, transport, maintenance, disposal and safety considerations, particularly the control of charging and cell temperature.
2. Whole life cost of AtoN can be reduced and environmental sustainability improved by considering a location-specific service condition factor that is based on local environmental conditions, maintenance regimes and user needs at the design stage.
3. Visibility Adaptive AtoN Light (VAAL) can improve conspicuity in poor visibility and can reduce AtoN light energy requirements.
4. While the quality of PV solar panel manufacture is maturing providing reliability and performance, current standards for solar PV units are generic and do not cover all the needs of AtoN applications and there is therefore a need for guidance on what constitutes a high quality marine grade PV panel for AtoN use.
5. Theft and vandalism can be successfully countered by innovative security measures and community engagement.
6. New low energy monitoring equipment makes remote control and monitoring viable for use on solar powered AtoN. Where satellite communication is necessary, short data messaging can play a role in reducing the cost of monitoring.
7. It is essential to carefully consider the location of PV solar panels in solar installations to avoid any shading of direct sunlight which will significantly reduce solar panel output even from small amounts of shading.

5. THE COUNCIL IS REQUESTED TO

Note the summary report on IALA Workshop on Sustainable Light & Power for the Next Generation.