

**Report on  
lites.asia meeting  
Sydney 6-7 June 2011  
Novotel Hotel, Darling Harbour**



## **Agenda**

### **Monday 6 June**

<b>Start</b>	<b>Finish</b>	<b>Duration (mins)</b>	<b>Topic</b>	<b>Presenter</b>
9.00	9.30	30	Registration	
9.30	9.50	20	Welcome & introduction	Melanie Slade, DCCEE
9.50	10.20	30	CFLs – power factor & harmonics	My Ton, EcoAsia
10.20	10.40	20	CFLs – update on IEC standard	Steven Beletich, Beletich Associates
10.40	11.10	30	Morning tea	
11.10	11.40	30	Update on IEC standards activities including LEDs	Owen Manley, Lighting Council Australia
11.40	12.20	40	LED testing – methods	Steve Coyne, Light Naturally
12.20	14.00		Lunch	
14.00	14.30	30	LED testing - results	Steve Coyne, Light Naturally
14.30	15.10	40	Lighting laboratories – equipment, procedures, calibration, etc.	Peter Manson, National Measurement Institute
15.10	15.40	30	Afternoon tea	
15.40	16.10	30	Asia Pacific Laboratory Accreditation Cooperation	Michael Fraser, APLAC
16.10	17.00	50	Commence workshop: <i>where to next for lites.asia?</i> Wrap up & invitation to dinner	Melanie Slade, DCCEE
<b>18.15 Sponsored Dinner</b> – meet in hotel lobby, 18.15 sharp. Ferry departs for restaurant at 18.30 from Convention Jetty, Darling Harbour				

### **Tuesday 7 June**

9.00	9.40	40	Roundup of international activities – China PILES LAMP, IEA annex 4E, en.lighten, Lighting Africa, etc.	Stuart Jeffcott, David Boughey, Melanie Slade, Steve Coyne
9.40	10.20	40	Development of a regional LED specification + consumer guide (workshop)	My Ton, EcoAsia
10.20	10.50	30	Morning tea	
10.50	12.00	70	Way forward for lites.asia (workshop)	Lead by My Ton, Melanie Slade
12.00	12.30	30	Wrap up and farewell	Melanie Slade, DCCEE
12.30	14.00		Lunch	

## Attendees

Name	Title	Organisation	Country
Melanie Slade	Director, Lighting and Equipment Energy Efficiency Team	Department of Climate Change and Energy Efficiency	Australia
David Boughey	Assistant Director, Lighting and Equipment Energy Efficiency Team	Department of Climate Change and Energy Efficiency	Australia
Steve Coyne	President	Illuminating Engineering Society of Australia & New Zealand Limited	Australia
Steve Beletich	Manager, lites.asia	Beletich Associates	Australia
Owen Manley	Technical Manager	Lighting Council Australia	Australia
Peter Manson		National Measurement Institute	Australia
Michael Fraser	International Relations	Asia Pacific Laboratory Accreditation Cooperation/National Association of Testing Authorities	Australia
Rafiqul Islam	Postdoctoral Fellow/Visiting Scientist	Pukyong National University	Bangladesh
Huang Huaping		Danson Electronics Ltd	China
Kalle Hashmi	Senior Advisor	National Lighting Test Centre	China
Ruan Zhuo Rong		Danson Electronics Ltd	China
Thavanathan Sujendan	Director	Danson Electronics Ltd	China
Debdas Goswami	Director	Bureau of Indian Standards	India
Shyam Sujan	Secretary General	ELCOMA (Indian Lighting Association)	India
Vandna Thakur	CFL Program Manager	Bureau of Energy Efficiency (BEE)	India
Abdul Mustar	Expert	BSN - Center for Development Standard	Indonesia
Mohsin Latif			Pakistan
Roberto Cristobal	Chairperson	Bureau of Product Standards	Philippines
Ananda Namal	President	Sri Lanka Energy Managers Association	Philippines
Jag Arora	Managing Director	Asia Lighting Compact	Singapore
Napaporn Phumaraphand	Director, Demand Side Management and Planning Division	Electricity Generating Authority of Thailand (EGAT)	Thailand
My Ton	Regional Sector Expert, Efficient Lighting	US State Department, ECO-Asia Clean Development and Climate Program	US
Bich Bui Ngoc		Directorate for Standards, Metrology and Quality	Vietnam

## Meeting Summary

### My Ton – power factor

- USAID will soon release a CFL power factor study.
- The Power factor question has remained unresolved for 2 decades – there are differing views as to whether high power factor is required or not.
- The study reviewed all available English language research over the past 15 years, taking a neutral approach.
- Some results came from large scale CFL installation programs in various countries.
- The need for high power factor CFLs is very much dependant on local utility infrastructure.
- High power factor CFLs are more expensive to manufacture (some at the meeting suggested 10% additional cost), and CFLs are price elastic.
- Some laboratory studies suggest that low power factors CFLs introduce harmonic problems to the network.
- The great majority of field data and field trials have failed to find significant detrimental effects from CFL installation.
- High power factor CFLs are not necessarily better:
  - Need realistic evaluation of local grid conditions.
  - High power factor CFLs not worthwhile except on small grids with very high penetration of CFLs. In some cases where on-site power generation is employed, power factor may become a problem (i.e. where lighting alone runs on on-site power).
  - Lamp selection should be based on quality tests of many parameters, not just power factor.
  - Need to consider other effects of high power factor lamps on programs – e.g. cost and early failure.
- Recommended steps:
  - Clarify and prioritise policy goals.
  - Evaluate local grid conditions.
  - Evaluate local market conditions – can they support high power factor CFLs, e.g. cost.

### Steven Beletich - IEC CFL performance standard 60969

Steven Beletich gave an update of developments with this standard. The following actions were discussed:

- Comments on the current draft of IEC60969 closed on 27 May. The Technical Panel will meet 30 June – 1 July to discuss comments.
- Extreme conditions – change word “extreme” to “robust” to reflect that these conditions are normal in some Asian countries.
- The meeting agreed that the standard should identify a set of parameters that lamps should meet (and be tested to these conditions) in order to be termed “robust”.
- Steven to circulate to lites.asia participants a proposed set of operational test conditions for Robust lamps for comment: e.g.:
  - 45-50 deg C
  - 90% humidity

- 150-270V voltage
- Performance tiers:
  - Steven explained that the current draft included an annex which listed a range of performance standards established by several countries (including EU, UK, China, US). While this was a step forward it did not achieve the objective of establishing an internationally recognised set of quality and efficacy performance tiers for CFLs. The meeting considered possible next steps.
  - One option is to leave Annex H as it stands – into 60969. The meeting discussed possible issues with the current annex H proposal:
    - That it is likely that further countries will ask for their own standards to be listed (increasing complexity of the annex);
    - That the current list does not achieve the objective of creating a central, harmonised set of performance tiers that can be updated cooperatively on an ongoing basis;
    - A limiting factor being possible concerns that the Dresden agreement ([http://iec.ch/about/globalreach/partners/regional/iec\\_cenelec\\_agreement.htm](http://iec.ch/about/globalreach/partners/regional/iec_cenelec_agreement.htm)) would oblige Europe to update their standards to match any changes in real performance tiers if they were included in an IEC standard.
  - The meeting agreed to propose that non-controversial parameters (including start time, run-up time, power factor) be included in normative text of the standard.
  - The meeting discussed alternative options for achieving the objective of international harmonised performance standards for CFLs:
    - One option is to propose including the performance tiers in a IEC technical specification. Investigation is required as to whether the Dresden Agreement would still require EU countries to comply with performance requirements that were included in a technical specification as opposed to a standard. Melanie Slade to organise teleconference with Dennis Chew to discuss the option of including performance tiers in an IEC technical specification.
    - The second option considered was to identify other mechanisms and/or organisations that could be a home for performance tiers for lighting quality and efficacy.

### **Owen Manley - IEC stds**

Owen Manley gave a presentation on the latest IEC lighting standards being developed – many LED stds in development. Current activities included work on:

- Photobiological safety (for incandescent and tungsten halogen lamps) including blue light health issues;
- Dimming standards for fluorescent lamps;
- Review of CFLi safety standards;
- LED performance standards – PAS 62612 (>50V) will have a draft released in June. Also PAS 62717 – performance standards for LED modules and 61347 – LED drivers and power supplies.

The Zhaga Consortium was also discussed (<http://www.zhagastandard.org/>). This industry collaboration aims to develop standards for the interfaces of LED light engines (interchangeability).

The lites.asia group asked for more visibility of the work of IEC technical panels and working groups (TC 34). Owen explained that currently a country needs to be a member of PRESCO or LUMEX in order to receive this information. This is something to be raised with Damien Lee (IEC)

#### **Steve Coyne - LED testing**

Steve Coyne presented key differences between goniophotometer and integrating sphere testing, including relative costs and pros and cons of each for LED testing. He stressed that program administrators need to make sure that their check testing regime is accurate and affordable.

#### **Peter Manson - optical measurements and international metrology system**

Peter Manson gave an outline of international structures for metrology. Peter's presentation included information about Mutual recognition arrangements that provided for the international recognition of calibration certification carried out by national metrology institutes and about the Asia Pacific Metrology Program (APMP). See his presentation for more detail.

#### **Michael Fraser - Asia Pacific Laboratory Accreditation Cooperation (APLAC)**

Michael Fraser presented an overview of laboratory accreditation structures in the Asia region and APLAC operations including training of evaluators and of accreditation body staff. APLAC's activities include proficiency testing for calibration, measurement (with APMP), testing and inter-regional programs. The organisation provides for mutual recognition of accredited facilities, the scope of accreditation including compliance with both domestic and foreign regulations.

The meeting discussed options for proficiency training for lighting test lab personnel. Michael explained that while APLAC was not directly involved in this, its parent organisation – APEC – did undertake projects to develop training schools that could roll out programs to other member countries. It was also noted that the Korean National Measurement Institute has a training organisation aimed at assisting the Asia Pacific area. The Australia NMI also conducted training courses every 2-3 years. Peter Manson also mentioned the APMP developing economies program as possibly relevant.

The meeting agreed that the next step would be a survey to identify the level of need for cooperative proficiency training and support.

#### **Mel Slade - International Activities Update**

Mel Slade gave an update of pileslamp, en.lighten and Lighting Africa.

## **David Boughey – IEA Annex 4E for LEDs**

David Boughey gave an overview of the IEA 4E annex for SSL, as well as the annex on lighting mapping and benchmarking.

## **My Ton – Development of an LED specification**

My Ton lead a workshop on the potential development of an LED specification for Asia. Key points were as follows:

- Current LED technology is suitable for a range of applications including – traffic signals, exit signs, refrigerator cases. These are first priority. Second priority is area illumination.
- Considerations for governments: a “roadmap” style plan for LED development and regulation, regional focus on standards, procurements guidelines, minimise impact of immature products, review LED progress.
- Standards (stay up to date) and labelling.
- Elements for an LED standard: efficacy, colour, life, lumen maintenance.
- Need to be aware of over-hype of LED products.
- Street lights – need sophisticated method of assessing light distribution – not just flux/wattage.
- Some countries raised concerns about the increase in use of low quality decorative LED lighting (in some countries Christmas lighting was maintained for significant periods of the year).
- The meeting agreed that a key priority was dealing with the influx of low quality LEDs into the market place. This had the potential to contaminate consumer perception of LED products.
- The meeting noted that international standards for LED performance are likely to take some time and that interim measures will be required to try to minimise the impact of poor quality products currently in the market place. The following short term actions were discussed:
  - Preparation of a list of current LED standards and their status to be compiled and made available on lites.asia website.
  - Development of a short ***consumer guide*** for selecting LEDs – explaining appropriate applications for LEDs and replacement guidance.
  - The development of a simple set of minimum specifications would also be a useful short term measure.
- Other longer term recommended actions included:
  - Roadmap style plan
  - Harmonised standards
  - Technology exchange
- Kalle briefed the meeting on work by Sweden on LED specifications including for traffic signals, exit signs, etc as well as a consumer guide for indoor LED lighting. Kalle to provide links for these resources to be distributed to lites.asia members.

## **Wrap up Workshop:**

### **CFLs:**

- Complete standards process for CFL performance standards – either via IEC standard; technical specification; or search for other international body to host the authoritative performance specifications.
- Sharing of product testing – potentially via the Asia Lighting Compact database. A proposal note will be circulated for comment.
- Provision of guidance on recycling and disposal for CFLs
- Several meeting attendees noted that there are still significant CFL quality issues in Asian countries – low cost, low quality products. This includes low quality, short life products being distributed in some cases via free CFL initiatives.

### **LEDs:**

- Short term:
  - Exit signs & Traffic lights –Kalle to provide the specifications from Sweden which will be circulated.
  - Decorative lighting standards. Roberto to share decorative light standards, when he has compiled them (i.e. from other countries). NRCAN will send their specification to Roberto. IEC chain lights std to also be included. Kalle to send Swedish spec for decorative LED lighting. Debdas will also help with this.
  - Consumer application guides (leaflet). A short two page guide to be prepared for consumers. A more detailed guide could be prepared as a purchasing guide for local governments etc. Kalle to provide Swedish guide to be circulated as first draft. Steve Beletich and Steve Coyne to consider initial comments and draft guide, Kalle to also help. A table of current LED standards and their status to be compiled and made available on lites.asia website.
- Long term:
  - Lites.asia members to pursue and promote the development of harmonised international LED performance standards. As an interim step, consider a simple set of minimum specifications as regional Standards. Indian standards to be circulated for consideration and comment (Debdas).
  - Consider application of LEDs to General purpose illumination applications.
  - Co-operate on development of LED technology and exchange information.

### **Other Actions**

- Lites.asia website to be expanded to enable the sharing of information on country CFL programs. A number of countries outlined information on initiatives which would be valuable if shared.
- Indonesia: seeking support with testing laboratory – especially with preparing for new LED IEC standards methods. Both training and new equipment may be required.
- Debdas to email India's 12 LED stds through for distribution.

- India very much interested in joining PRESCO. Lites.asia to provide any assistance required.
- Steve Beletich to distribute by email the Frankfurt Panel list of meetings and a synopsis of each.
- Further explore sharing of test data possibly via ALC website. An email will be sent to find who has data to share. Discuss with ALC.
- Lab training: My Ton to prepare questionnaire to circulate to canvass interest in collaboration, then possibly paper on how to co-operate on this. Training issues raised included test lab staff capacity, proficiency testing, and understanding of test methodology.
- lites.asia website to provide updated information on the status of IEC PRESCO standards.