Global Lighting Association: NEMA (United States) update
(agenda item 1 during afternoon session)

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12 March 2012

Topics covered

1. Incandescent lamp phase out
2. Legislative initiatives
3. Federal regulations
4. Building regulations / building codes
5. Standards development for SSL
6. Energy Star update
7. NEMA initiatives

Incandescent lamp phase out

Phase out of incandescent lamps around the world - December 2011 Status

	2009	2010	2011	2012	2013	2014	2015	2016
Europe								
European Union	100W	75W	60W	40W-15W		halogen available		efficiency level B
Switzerland	100W	75W	60W	40W-15W		halogen available		efficiency level B
Turkey				Aligned with EU		halogen available		efficiency level B
North America								
British Columbia			75W, 100W		40W,60W		halogen available	
California			100W	75W	40W,60W		halogen available	
USA (except CA)				100W	75W	40W,60W	halogen available	
Canada (except BC)						75W, 100W	40W, 60W	halogen available
Latin America								
Cuba	banned all incandescent filament lamps including halogen in 2005							
Argentina				ban of all incandescent lamps ≥ 25W but not including halogen				
Columbia			≥150W	≥75W		≥60W	halogen available	
Mexico				100W	75W	40W,60W	halogen available	
Brazil				≥100W	≥60W	≥40W	≥25W	halogen av
Asia								
Malaysia			≥100W	all other wattages		ban of all filament lamps in favor of CFLs and LEDs		
Russia			≥100W			halogen available		
Israel			≥60W			halogen available		
ROK				150W - 70W		70W-25W	minimum standard 20 lm/W	
Taiwan				Min. requirements for consumer lamps: 22lm/W for ≥100W, 20lm/W for ≥60W, 18lm/W for ≥40W, 15lm/W for ≥25W				
China				≥100W		≥60W		≥15W
Japan	gradual voluntary transition by major lamp companies to high efficacy lighting - no mandatory regulations in place							
Philippines	no government mandated ban at this time, Bill to require a minimum of 15 lm/W efficacy introduced in the Philippines Senate							
India	Some voluntary programs, but no mandatory standards for lamps rated at 100W or below							
Oceania								
Australia	Traditional incandescent phased out in 2009, halogen available							
New Zealand	Intention was to phase out traditional incandescent lamps the same way as Australia, but government elected in 2008 did not proceed							

Prepared by Pekka Hakkarainen Dec 2011

Color code: Phase out event or period; Higher efficacy filament lamps allowed; No filament lamps allowed

In the U.S., over 50% of consumers are aware of incandescent phase out (OSI, 2011)

- 100W A-lamp not manufactured or imported starting 1 Jan 2012.
- There is some anecdotal evidence of consumer stockpiling
- Canada delayed phase out by two years

Federal Legislation

- Election year = “nothing good” will happen in Congress in 2012
  - NEMA continues to collaborate with advocate groups to write *draft energy legislation*, but this will very likely have to wait till 2013.
    - Require States to adopt building energy codes
    - Support for outdoor lighting standards diminishing
  - Proposals to *repeal incandescent lamp standards* (from EISA 2007) were unsuccessful in 2011.
    - Because of election year politics, if such a Bill were introduced this year, there are predictions in Washington that it would succeed.
  - Energy and Water Appropriations Bill passed late 2011 *denies DOE money* to enforce incandescent standards in Fiscal Year 2012.

State legislation

- Variety of ***recycling programs*** for mercury containing products in several States (OR, MA, VT, ME).
  - Producers are held responsible for the costs of these programs.
- More States (GA, SC, TX, MN, MI, TN, PA) have passed or are considering Bills to declare that ***lamps manufactured in the State*** and not sold out of the State are exempt from Federal standards.
  - Mostly thought of as political posturing, although some of these States have incandescent lamp factories.

Federal regulations (by the Department of Energy and by the Securities and Exchange Commission)

- DOE: Fluorescent ballast final rule
  - Published late 2011 to be effective in 2014
  - Minimum energy levels eliminate large percentage of products from market
- DOE: Incandescent reflector lamp rule not yet published
  - NEMA not sure about the reason for this delay
- DOE: HID luminaire rule making in process
- DOE: HID lamp rulemaking “framework document” published
- DOE: New round of general service fluorescent lamp rulemaking “framework document” published.
  - For example, T8 lamp minimum efficiency would increase from 89 lm/W to 93 lm/W
  - Meanwhile, the three major lamp companies have filed for exception from the 2009 rule (effective July 2012) because of shortage of Rare Earth elements.
- SEC: conflict minerals final rule still not published
  - Companies that file reports with SEC are required to state whether Sn, Ta, W and Au used in their products are mined in DRC or surrounding countries.
  - Reason for delay is probably the large number of public comments

Building Codes

- DOE has adopted a goal of improving building energy efficiency by ***50%*** in 2015 (new buildings) compared to 2004 baseline, and going to ***net-zero energy buildings as a minimum requirement*** by 2030.
- NEMA supports building energy codes as a means for improving energy savings – not component regulations (previous page)
- New developments:
  - ANSI/ASHRAE/IES Standard 90.1-2010 (non-residential buildings) published – achieved goal of 30% improvement over 2004 version
  - New version of California State Code (Title 24, Part 6 of the CA Code of Regulations) delayed until 2014
  - Emergence of High Performance (Green) building standards
    - ASHRAE Standard 189.1-2011 published
    - International Green Construction Code (IgCC) 2012 awaiting publication
    - LEED Rating System 2012 in public review

Standards development

- NEMA
  - SSL-1: *Electronic Drivers for LED Devices, Arrays, or Systems* (published)
  - SSL-3: *High-Power White LED Binning for General Illumination*
  - SSL-4: *Solid State Lighting Form Factors*
  - SSL-6: *Solid State Lighting for Incandescent Replacement – Dimming*
  - SSL-7: *collaboration with Zhaga Consortium to develop forward looking standards for LED lamp – lighting control compatibility*
  - LL-9: *Dimming of T8 Fluorescent Lighting Systems*

Standards Development

- IES
  - LM-79-08 “Electrical and Photometric Measurements of SSL Products”
  - LM-80-08 “Measuring Lumen Maintenance of LED Light Sources”
  - TM-21-11 “IESNA Lumen Method Extrapolation”
  - LM-82-11 “Characterization of LED Light Engines and Integrated LED Lamps for Electrical and Photometric Properties as a Function of Temperature”

U.S. Environmental Protection Agency: Energy Star products

- New draft lamp specification published Oct 2011 – industry has several problems
  - Not technology neutral
  - Many non-energy requirements are in conflict with other regulations or standards
    - Lamp package label, mercury labeling, color consistency etc.
  - Includes requirements for control compatibility (in development)
  - Final standard expected before end of 2012

NEMA Inititiatives

- enLIGHTen America
- LUMEN Coalition and consumer education
- High Performance Building Council
- Smart Grid
- Carbon Footprint
- Low Voltage Direct Current