

Joint position on the impact on stage lighting and
film/TV production of the draft Commission regulation
on ecodesign requirements,
repealing Regulation (EU) 1194/2012

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1. Introduction

With this joint position, the signatories provide important input to the proposed draft revision of the EU regulation on ecodesign requirements (EU) 1194/2012.

Whilst the live performance, entertainment and audiovisual (film/TV) sectors support the EU's goals of reducing carbon emissions and the general aim of reducing energy consumption for lighting, we wish to stress the economic, technical and artistic impact on our sectors of the proposed draft revisions as currently framed.

Lighting touches the heart of the professional activities carried out by lighting designers and technicians in the live performance and audiovisual sectors. It is a core and essential part of a production and requires specific attention.

The current EU Regulation includes an exemption for 'studio lighting, show effect lighting, theatre lighting'. We welcome that in its proposed revisions, the Commission considers certain specificities of the live performance and film sector, and partly exempts professional lighting products used on stage in theatres, concert halls, television and film studios and other venues.

However, **some serious concerns remain**, as some of the technical requirements cannot realistically be met, or they impose restrictions on use that are not supported by evidence of their need. Certain types of light sources which are used to a wide extent in theatres, concert halls and other live performance venues, as well as in film and television studios, are not taken into consideration in the draft proposal and **there are currently no suitable replacements on the market**.

We therefore propose **small but essential amendments** to the Commission draft revision on ecodesign requirements in the areas mentioned below; these changes are essential for the continued professional creation of stage lighting in the context of a live event and studio lighting in the context of film and TV productions:

- A. Exemption from Standby Power mode and Networked Stand-by Power mode**
- B. White Light Sources for specific needs**
- C. Colour tuneable light sources and the definition of wave-length of Green**
- D. Lamp bases for exemption when used in Professional Entertainment Lighting Products**

2. Proposed amendments

Subject	Commission Draft Regulation	Proposal for amendment
A. Stand-by mode and power	<p>Annexes to the Commission Regulation:</p> <p>Recitals (16) ; (17) ; (24) ; (25)</p> <p>Annex II.1 (a) page 11:</p> <p><i>The standby power P_{sb} of a light source shall not exceed 0.5W.</i></p> <p><i>The network standby power P_{net} of a connected light source shall not exceed 0.5W</i></p> <p>Annex II.1 (b) page 11:</p> <p><i>The standby power P_{sb} of a separate control gear shall not exceed 0.5W.</i></p>	<p><u>Addition, NEW:</u></p> <p><i>CLS and CSCG connected to high speed control networks utilising signalling rates of 250,000 bits per second and higher, in always-listening mode, designed and marketed specifically for scene-lighting use in film-studios, TV-studios and locations, and photographic-studios and locations, or for stage-lighting use in theatres, discos and during concerts or other entertainment events shall be exempted from P_{net} and P_{sb} standby power requirements.</i></p>

Justification:

In the stage and entertainment lighting industry we must have an immediate response time in relation to control signals. Light sources must be instantly available during productions and rehearsals and are therefore, constantly in use.

It is not technically possible to operate a continuously listening network communications function, whether this means an Ethernet protocol or DMX512/DMXRDM protocol or other similar high-speed lighting control protocols, with a supplied power of 0.5W.

All current Professional Entertainment Lighting products operable by remote control over an entertainment lighting Ethernet or DMX512/DMXRDM network will fail the P_{net} limit by a large margin.

We therefore advocate for additional exemption in the draft regulation on ecodesign requirements.

Subject	Commission Draft Regulation	Proposal for amendment
<p>B. White Light Sources for specific needs</p>	<p><i>Not mentioned</i></p>	<p>Annex III; 3 (t) NEW:</p> <p><i>White light sources, designed and marketed specifically for scene-lighting use in film-studios, TV-studios and locations, and photographic-studios and locations, or for stage-lighting use in theatres, during concerts or other entertainment events, and providing one or more of the following specifications:</i></p> <ul style="list-style-type: none"> <i>A. LED with high CRI>90</i> <i>B. LED with colour-temperature CCT between 2500K and 10,000K inclusive</i> <i>C. GES/E40, K39d base with changeable colour-temperature down to 1800K, used with low voltage power supply</i> <i>D. LED rated at 180W and greater and arranged to direct output to an area smaller than the light emitting surface</i> <i>E. DWE lamp type. This is a tungsten lamp defined by its wattage (650W) voltage (120V) and terminal type (pressure screw terminal).</i> <i>F. White bi-colour LED sources</i> <i>G. Flourescent tubes: Min BI Pin T5 and Bi Pin T12 with CRI=>85CCT 2900,3000,3200,5600,65</i>

Justification:

- A. + B.: *High CRI and low colour-temperature <2700K reduces the luminous-efficiency according to the luminosity-function which is artistically required.*
- C: *The lamp bases GES /E40 are used in equipment with low voltage power supply built specifically for this light source and providing a very narrow opening angle. At the moment there is no replacement on the market that can provide a lighting surface that is small enough and a changeable colour temperature, which reaches under 1800 K (amber drift)., to match the optical requirements of very narrow beamed equipment.*
- D: *When the radiant power of LED arrays is increased to very high levels at high densities efficiency deteriorates due to the opposing effects of thermal output and étendue. No present technology for white light sources rated above around 200W where the output is concentrated on a small output area is able to comply with the lm/W*

requirements due to losses inherent in their optical design.

State of the art (2018) LED sources for use with focusable optical trains only achieve 40-60% of the regulation efficiency limit.

- E: The DWE lamp cannot be simply defined by its base, as the base is used for a variety of unrelated purposes. The DWE lamp is unique and is used in Film and concert lighting, usually in large arrays of between 8 and 320 lamps. There is no substitute lamp with its characteristics and it is not used for any other purpose.*
- F: Film Television and all image capture is about white sources on the Planckian Locus, This is widely used to emulate Tungsten and daylight the alternative would be traditional tungsten or daylight sources and consumable correction gels and filters.*
- G: Fluorescent Tubes T5 and T12 Optimised for use in Film and TV production and widely adopted in place of conventional tungsten technology.*

We call for an exemption of White Light Sources for specific needs, similar to point 3 (n) in Annex III.

Subject	Commission Draft Regulation	Proposal for amendment
C. Colour tuneable light sources and the definition of Green	<p>Annexes to the Commission Regulation: Annex III.3 (n) page 18:</p> <p><i>(n) colour-tuneable light sources that can be set to at least the colours mentioned in table below and have for each of these colours, measured at the dominant wavelength, a minimum colour purity index according to table below, and intended for use in applications requiring high-quality coloured light:</i></p> <p><i>Colour Dominant wavelength range Minimum colour purity index</i></p> <p><i>Blue 440nm – 490nm 90 %</i></p> <p><i>Green 520nm – 540nm 65 %</i></p> <p><i>Red 610nm – 670nm 95 %</i></p>	<p>Adopt Annex III.3 (n) page 18:</p> <p><i>(n) colour-tuneable light sources that can be set to at least the colours mentioned in table below and have for each of these colours, measured at the dominant wavelength, a minimum colour purity index according to table below, and intended for use in applications requiring high-quality coloured light:</i></p> <p><i>Colour Dominant wavelength range Minimum colour purity index</i></p> <p><i>Blue 440nm – 490nm 90 %</i></p> <p><i>Green 520nm – 570nm 65 %</i></p> <p><i>Red 610nm – 670nm 95 %</i></p>

Justification:

The specified range of wavelength for the Green part of a CTLS is too narrow and excludes a variety of commonly produced green LED emitters.

The allowed range excludes the photopic maxima at 555nm and thereby hinders the design of the most efficient possible CTLS designs. The specification of the allowed green wavelength prevents the achievement of best efficiency.

Subject	Commission Draft Regulation	Proposal for amendment
<p>D. Lamp bases for exemption when used in Professional Entertainment Lighting Products</p>	<p>Annexes to the Commission Regulation: Annex III.3 (m) page 18:</p> <p><i>(m) halogen light sources with cap-type G9.5, GX9.5, GY9.5, GZ9.5, G9.5HPL, G16d, GX16, GX16d, GY16, G22, G38, GX38, GX38Q, P28s, P40s, PGJX50, QXL, designed and marketed specifically for scene-lighting use in film-studios, TV-studios, and photographic-studios, or for stage-lighting use in theatres, discos and during concerts or other entertainment events;</i></p>	<p>Adopt Annex III.3 (m) page 18:</p> <p><i>(m) halogen light sources with cap-type G6.35, G9.5, GX9.5, GY9.5, GZ9.5, GZX9.5, GZY9.5, GZZ9.5, K39d, G9.5HPL, G16d, GES/E40, GX16, GX16d, GY16, GY19, G12, G22, G38, GX38, GX38Q, GX5.3, GX51, GX6.35, GXP28s, P40s, PAR1, PGJX28, PGJX36, PGJX50, QXL, R7S (74,9 mm to 189 mm), SFA 21, SFA27, SFAX27, SFC10, SFC15 designed and marketed specifically for scene-lighting use in film-studios, TV-studios, and photographic-studios, or for stage-lighting use in theatres, discos and during concerts or other entertainment events;</i></p>

Justification:

Light sources with these cap-types should be exempted from the regulation when manufactured and sold specifically for use in luminaires for stage lighting, television and film studios (outdoor and indoor) as there are no suitable replacements / alternative light bases on the market.

- A: *The lamp bases GES /E40 are used in equipment with low voltage power supply built specifically for this light source and providing a very narrow opening angle. At the moment there is no replacement on the market that can provide a lighting surface that is small enough and a changeable colour temperature, which reaches under 1800 K (amber drift)., to match the optical requirements of very narrow beamed equipment.*
- B: *The DWE lamp cannot be simply defined by its base, as the base is used for a variety of unrelated purposes. The DWE lamp is unique and is used in Film and concert lighting, usually in large arrays of between 8 and 320 lamps. There is no substitute lamp with its characteristics and it is not used for any other purpose.*

3. Conclusions

As a matter of principle, the signatories of this position paper are committed to the general goals of the Commission on carbon reduction and on the energy efficiency of products.

Today there are **no suitable replacements for the entire range of currently used entertainment lighting products available on the market**. We therefore advocate suitable technical exemptions which are restricted to entertainment lighting products in theatres, concert halls and other live performance venues, as well as in film and television studios. These technical exemptions must be responsive to the professional needs and realities of the sector.

While we welcome the fact that the draft proposal on ecodesign requirements takes into consideration the entertainment, live performance and audiovisual sectors and exempts a number of light bases from the scope of the regulation, **we remain highly concerned about the essential light sources currently not included in the Commission draft revision of ecodesign requirements as well as definitions and restrictions not suitable for our sectors**.

We therefore call on the European Commission and the expert group of the Member States to take our remaining demands into account and in this way keep **narrow and limited exemptions** which allow the sector to provide for professional stage lighting and television and film studios:

- A. **Stand-by Power:** acknowledging the constant availability of a computing element, in high speed control networks.
- B. **White light sources for specific needs:** acknowledging effects of high colour rendering, low colour temperature and high radiant power and density.
- C. **Colour tuneable light sources and green light:** including more efficient green LED-shades.
- D. **Lamp bases for exemption when used in Professional Entertainment Lighting Products**

The signatories of this joint position are:

European and international associations:

IALD – International Association of Lighting Designers www.iald.org

Pearle* – Live Performance Europe www.pearle.eu

PLASA – The Professional Lighting and Sound Association www.plasa.org

Motion Picture Association (MPA) www.mpaeurope.org

ACT – Association of Commercial Television in Europe www.acte.be

FIAPF – International Federation of Film Producers Associations www.fiapf.org

CEPI – European Coordination of Independent Producers www.cepi-producers.eu

National organisations:

ALD – The Association of Lighting Designers www.ald.org.uk

DTHG – German Theatre Technical Society www.dthg.de

OETHG – The Austrian Theatre Technology Association www.oethg.at

SLF – The Association of Swedish Lighting Designers www.svenska-ljus.se/english/

STEPP – The professional association of producers, designers and technicians of the arts and event sector in Belgium www.stepp.be

VPLT – The German Entertainment Technology Association www.vplt.org

Studio Babelsberg AG www.studiobabelsberg.com

ASPEC – Association of Studio and Production Equipment Companies www.aspec-uk.com

BFC – British Film Commission britishfilmcommission.org.uk/

BSAC – British Screen Advisory Council www.bsac.uk.com/

ABTT - Association of British Theatre Technicians www.abtt.org.uk

Fed - Creative Industries Federation www.creativeindustriesfederation.com

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