

Consultation Questionnaire Exemption No. 2(b)(3) (renewal request)

Exemption for „2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9): 15 mg may be used per lamp after 31 December 2011 “

Abbreviations and Definitions

CFL	Compact Fluorescent
Hg	Mercury
LED	Light emitting diode
LEU	LightingEurope
Mpcs	Million pieces
NARVA	NARVA Lichtquellen GmbH + Co. KG

Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract for the evaluation of applications for the renewal of exemptions currently listed in Annexes III of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.¹

LightingEurope (LEU) and NARVA Lichtquellen GmbH + Co. KG (NARVA) have submitted requests for the renewal of the above mentioned exemption, which has been subject to a first completeness and plausibility check. The applicant has been requested to answer additional questions and to provide additional information, to be made available on the request webpage of the stakeholder consultation:

<http://rohs.exemptions.oeko.info/index.php?id=228>

Both applicants apply for the renewal of Ex. 2(b)(3), with the current wording formulation listed in Annex III of the RoHS Directive and request the maximum available duration allowed (based on Art. 5(2) of the Directive)

According to the applicants, non-linear triband phosphor fluorescent lamps for general lighting covered by this exemption are a small group of energy- and resource-efficient lamps required in the EU market. They are widely used in public buildings, restaurants, industry, shops, supermarkets and department stores as well as for street and city lighting.

Non-linear triband phosphor lamps contain a small amount of intentionally added mercury in the discharge tube, which is essential to convert electrical energy in light.

There are no specific market data available for the lamps covered by this exemption. LEU estimated that in 2013 approx. 19 Mio non-linear special purpose lamps have been marketed, amounting to around 190 kg of Hg entering the EU market.

According to LEU there are relatively few nonlinear LED based replacement lamps, none of which could be considered as fully compatible and direct replacement for conventional lamps in existing applications, hence the reliability of substitutes cannot be judged. LEU explain that it is to be decided case by case, if a LED based solution can be an effective replacement for an existing fixture. It mostly requires involvement of people with professional expertise due to the following issues:

- 1) Electrical compatibility: LED tubes have to operate on the installed control gear without any problems. It can require technical changes to the luminaire (rewiring), especially in luminaires equipped with electronic control gears.
- 2) Applicable legal and compliance requirements like conformity assessments, declaration, and labelling of the changed luminaire are needed.
- 3) Different light distribution: related to the LED tubes changed optical characteristics vs. the existing fluorescent lamps.
- 4) LED lamps contain electronic components as well as materials which like nearly all other electronic equipment use the RoHS regulated substance Pb in applications exempted by Annex III of the Directive.

LEU further explains that there is a growing market approach towards the use of LED luminaires, but this requires full luminaire replacement¹ including the additional high investment and negative environmental impact related to such a replacement (when performed before end-of-life of the original installation). LEU claims that there are no data available about the number of luminaires, equipment and fixtures using non-linear lamps. A conservative assumption, is that 500€ would be needed for replacement per luminaire incl. installation, creating 5-10 kg WEEE for each still functional and energy efficient installation.

LEU state that in the absence of public funding and support programs, conventional technologies such as fluorescent support the needed investment into new LED development almost exclusively.

Against this background, LEU does not expect LED alternatives to allow for a full phase-out of Ex. 2(b)3 lamps within the coming 5 years, and thus request a renewal of the exemption.

For details, please check the applicant's exemption requests at:

<http://rohs.exemptions.oeko.info/index.php?id=232>

The objective of this consultation and the review process is to collect and to evaluate information and evidence according to the criteria listed in Art. 5 (1) (a) of Directive 2011/65/EU (RoHS II), which can be found under:

¹ Possible routes for replacing a linear fluorescent lamp related to LED substitutes are:

- Retrofit route: a fluorescent lamp is substituted by a LED tube. The luminaire itself is not rebuilt and the control gear remains in the installation. Driver compatibility is assumed here.
- Conversion route: the fluorescent lamp is replaced, and technical changes also need to be made to the luminaire: ballasts and/or internal wiring may need to be replaced or altered – it is explained that this shifts the responsibility for the technical and the safety consequences of the conversion to the party carrying out the conversion.
- Rewiring route – removing the control gear (CG) from the existing installation – in these cases it is assumed that driver compatibility of the LED requires removal of the CG.
- Replacing the luminaire completely with an LED compatible luminaire (in some cases luminaire with integrated LED).

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT>

If you would like to contribute to the stakeholder consultation, please answer the following questions:

Questions

1. The applicants have requested the renewal of Ex.2(b)(3), with the current wording formulation: *Exemption for „2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9): 15 mg may be used per lamp after 31 December 2011 “and with the maximum validity period possible.*
 - a. Do you agree with the scope of Ex. 2(b)(3) as proposed by the applicants?
 - b. To support your views, please provide detailed technical argumentation / evidence in line with the criteria in Art. 5(1)(a).
 - c. Please suggest an alternative wording and explain your proposal, if you do not agree with the proposed exemption wording or with the wording of one or more of the entries.
2. The application illustrates the average Hg content of lamps [mg] in non-linear fluorescent lamps, which has decreased in the period between 2009-2013 from 15mg to 10mg, however LEU do not propose a reduction of the maximum Hg amount specified in the current exemption.
 - a. Do you agree that lamps falling under this exemption still require up to 15 mg of Hg per lamp?
 - b. If not, please propose an alternative threshold. If relevant, please consider if different levels would be relevant for different product sub-groups falling under Ex. 2(b)(3).
 - c. Please support your views with relevant information and data.
3. LEU state that *“For non-linear T8, T9 and T12 lamps no significant LED retrofit solutions are currently available in the EU market, which can be used in respective fluorescent lamp luminaire. Those lamps which are available often need technical changes in the luminaire. Instead new LED solutions are replacing non-linear fluorescent lamps in new products, such as LED street lighting systems”*.
 - a. Do you agree with this statement?
 - b. If not, please explain what alternatives are available and what part of the Ex. products scope they could cover.
 - c. For possible alternatives, please provide typical parameters and specifications, so that a comparison with Ex. 2(b)(3) lamps is possible.
 - d. Please clarify what share of lamps can be substituted with LED replacements (conversion route; rewiring route; etc. – see footnote 1)
4. Please provide information regarding the development of substitutes for special purpose lamps both as replacement lamps in existing installations and as lamps for use in new installations.

Please note that answers to these questions are to be published as part of the available information relevant for the stakeholder consultation to be carried out as part of the evaluation of this request. If your answers contain confidential information, please provide a version that can be made public along with a confidential version, in which proprietary information is clearly marked.