

Consultation Questionnaire Exemption Request No. 3

Mercury in cold cathode fluorescent lamps and external fluorescent lamps (CCFL and EEFL) for special purposes not exceeding per lamp:

3(a): Short length $\leq 500\text{mm}$ 3.5mg/lamp

3(b): Medium length ($> 500\text{mm}$ and $\leq 1500\text{mm}$) 5mg/lamp

3(c): Long length ($> 1500\text{mm}$) 13mg/lamp

Abbreviations and Definitions

CFL	Compact fluorescent lamp
CCFL	cold cathode fluorescent lamps
EEE	Electrical and electronic equipment
EEFL	external fluorescent lamps
LCD	liquid crystal display
LEU	Lightning Europe
LFL	Linear Fluorescent Lamps
UV	Ultraviolet

Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract¹ 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) has submitted a request 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, available on the request webpage of the stakeholder consultation <http://rohs.exemptions.oeko.info/index.php?id=228>.

The applicant applies for the renewal of Ex. 3 entries a-c, with the current wording formulation listed in Annex III of the RoHS Directive and requesting the maximum available duration.

According to the applicant there is a continued use of CCFL, for mainly niche products with a variety of lamp families with mercury content between 3.5 mg and up to 13 mg. Such lamps are in particular used in illuminating the backlight of liquid crystal displays (LCD), or in other equipment with similar uses applied in medical devices, inspection equipment, professional equipment, backlit displays, laptop computer displays and computer monitors.

¹ Contract is implemented through Framework Contract No. ENV.C.2/FRA/2011/0020 led by Eunomia

Under normal use, these lamps tend to have typical rated life times of 25,000 hours or more and are not typically used in general lighting applications, nor intended to be replaced by the user or consumer. Replacements are typically made by the equipment manufacturer or by a repair facility and the spent lamps are required to be collected and recycled. The lamps are not fitted with an industry standard end cap or termination and are typically hard wired into the appliance or connected via snap in terminals. Moreover the applicant supports the limitation of these lamp types to non-general lighting applications

The applicant claims that there are no specific market data available for the lamps covered by this exemption, however these lamps are said to have an extremely low market size compared to the other fluorescent lamps

LEU explains that there is a growing effective market for mercury-free lamps based on LED technology addressing also one-on-one replacements (i.e., drop.in or retrofit replacement). However various limitations are described to explain why such alternatives are not sufficiently marketable for the full range of applications and must be decided case by case. It mostly requires involvement of people with professional expertise due to the following issues (see application for additional aspects and explanations):

- Non-compatibility of LED alternatives with installations originally manufactured for CCFL lamps in terms of all installed conventional and electronic control gears; LEU estimates that 40% of all luminaires are equipped with an electronic control gear
- Applicable legal and compliance requirements like conformity assessments, declaration, and labelling of the changed luminaire are needed.
- Guarantee that the person installing the LED based solution is responsible to perform testing and measures to ensure the new system fulfils these requirements including when the original lamp type is installed again.
- Different light distribution: due to the LED tubes changed optical characteristics vs. the existing lamp, the light plan could no longer be optimized for the application in some cases.
- Restricted choice in the LED based lamps, only a fraction of the existing lengths are available, not all colours are available, for example no direct replacement in emergency lighting is available.

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

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

<http://rohs.exemptions.oeko.info/index.php?id=234>

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:

<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 applicant has requested the renewal of Ex.3, entries a-c, with the current wording formulation:

“Mercury in cold cathode fluorescent lamps and external fluorescent lamps (CCFL and EEFL) for special purposes not exceeding per lamp:

 - *3(a): Short length $\leq 500\text{mm}$ 3.5mg/lamp*
 - *3(b): Medium length ($> 500\text{mm}$ and $\leq 1500\text{mm}$) 5mg/lamp*
 - *3(c): Long length ($> 1500\text{mm}$) 13mg/lamp”*

and with the maximum validity period possible.

 - a. Do you agree with the scope of the Ex. entries a through c, as proposed by the applicant? To support your views, please provide detailed technical argumentation / evidence in line with the criteria in Art. 5(1)(a).
 - b. 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. Please provide information and data concerning possible substitutes or developments that may enable reduction, substitution or elimination, at present or in the future.
 - a. In this regard, please provide new information as to alternatives that may cover part or all of the applicability range of applications relating to both CCFL and EEFL applications and their sub-groups (including if relevant lamps with non-visible spectral output).
 - b. Please provide information as to LED alternatives for replacement as well as alternatives relevant for newly designed equipment
 - c. Please provide an overview of CCFL and EEFL lamps compared to available LED alternatives (drop-in as well as alternatives relevant for newly designed equipment) related to the key parameters, like luminous efficacy (lm/W), lamp life, CRI, average price, light fluxes, colour temperature, switching resistance etc.

3. Please clarify what proportion of the market share of lamps falling under Ex. 3(a-c) is used for replacing lamps in equipment, which is already on the EU market and what part is needed for new products placed on the market.

4. LEU explains that replacements are typically made by the equipment manufacturer or repair facility and the spent lamps would be required to be recycled. However, it is also stated that ensuring electric compatibility and legal compliance of LED alternatives may require technical changes to the luminaire.
 - a. Do you agree that this could be an obstacle for phase-out of Ex. 3 lamps, despite the fact that replacement of lamps is generally performed by equipment manufacturers and repair facilities?
 - b. If relevant, please specify product sub-groups for which this may be the case, in comparison with other sub-groups where alternatives are available.
 - c. Please explain why or why not and support your views with relevant information and data.

5. LEU states that without an exemption, replacement lamps would not be available for devices/equipment already on the market and in use. This is explained to result in a high environmental impact in terms of EEE reaching end-of-life (EoL) early, should such replacements not be available and should the exemptions not be renewed. In parallel, in light of the shift of R&D efforts towards the further development of LED technologies, it can further be understood that where LED alternatives shall not enable substitution of CCFLs and EEFLs within existing EEE, there is no intention of developing other alternatives
- a. Please clarify if a renewal of the exemption could be limited to the application of Hg in lamps to be used in EEE placed on the market before 2016;
 - b. If this is not possible at present, please specify if a short term transition period would enable such a change (for example, for lamps placed on the market before 2017)? Alternatively;
 - c. What stages are required to allow the phase-out of Ex. 3 lamps?
 - d. In case of such a limitation, what would be the consequences of replacing the three entries with a single entry “Mercury in cold cathode fluorescent lamps and external fluorescent lamps (CCFL and EEFL) for special purposes not exceeding XXX mg per lamp”? Please specify the relevant allowance for limiting the amount of Hg that can be applied per lamp, which reflects the maximum amount still needed in replacement lamps of relevant EEE.

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.