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COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMISSION REGULATION (EC) No ../..

**amending Regulation (EC) No 244/2009 as regards ecodesign requirements on
ultraviolet radiation of non-directional household lamps**

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

I. Coherence between Commission Regulation 244/2009¹ and Community legislation on the safety of tungsten halogen lamps

1. Tables 4 and 5 in Commission Regulation 244/2009 establish requirements on the maximum ultraviolet (UV) radiation of both compact fluorescent lamps (Table 4) and other types of non-directional household lamps (Table 5). Table 5 covers in particular incandescent lamps and halogen lamps; it explicitly excludes light emitting diodes (LEDs). The requirements in both tables cover lamps with all voltages and are as follows:

Functionality parameter	Stage 1 (1 September 2009)	Stage 5 (1 September 2013)
UVA+UVB radiation	≤ 2.0 mW/klm	≤ 2.0 mW/klm
UVC radiation	≤ 0.01 mW/klm	≤ 0.01 mW/klm

The rationale behind regulating UVC radiation under the Ecodesign Directive is that a recent report of the Scientific Committee on Emerging and Newly Identified Health Risks² concluded that some compact fluorescent lamps emit measurable amounts of UVC radiation. According to industry, this may happen with compact fluorescent lamps whose phosphor coating is unevenly applied in the production phase. Beyond avoiding potential detrimental effects on the health of users, a UVC radiation limit in Table 4 is therefore also a way to address the quality of compact fluorescent lamps. The limit set was " ≤ 0.01 mW/klm".

In the absence of evidence on measurable UVC radiation from other lamps prior to the adoption of the Regulation, the same limit on UVC radiation was introduced in Table 5 for other lamps. That value was not contested by any party ahead of the vote in the Regulatory Committee.

Radiation is listed as one of the environmental aspects to be considered when developing implementing measures under the Ecodesign framework Directive (2005/32/EC)³, in Annex I part 1.2 of the Directive.

2. Harmonised standards EN 60432-2 and EN 60432-3⁴ currently provide presumption of conformity with Community product safety legislation as regards the safety of tungsten halogen lamps.

¹ COMMISSION REGULATION (EC) No 244/2009 of 18 March 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps, OJ L76 of 24.3.2009 p. 3-16

² See http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_019.pdf

³ Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council OJ L 191, 22.7.2005.

According to the General Product Safety Directive (2001/95/EC)⁵, producers shall be obliged to place only safe products on the market. The Low Voltage Directive (2006/95/EC)⁶ provides in its Annex I.2.b that electrical equipment placed on the internal market shall not produce radiation that would cause a danger. The harmonised standards which provide conformity with these requirements are regularly published in the Official Journal. Their list includes standards EN 60432-2 and EN 60432-3.

Both standards implement the provisions of the international standards IEC 60432-2 (Edition 2.1) and IEC 60432-3 (Edition 1.2) as regards the UV radiation of tungsten halogen lamps.

Standard IEC 60432-2 covers self-shielded tungsten halogen lamps⁷ with voltage between 50V and 250V and equipped with caps that make them direct replacements to conventional incandescent bulbs. The relevant provision (section 2.11) reads:

"The specific effective radiant UV power of a lamp shall not exceed 2 mW/klm"

Standard IEC 60432-3 covers tungsten halogen lamps with all other cap types and all voltages. The standard applies the same UV radiation limit in its section 2.4 to self-shielded tungsten halogen lamps within its scope. Examples of self-shielded tungsten halogen lamps in the standard include extra low voltage (ELV) tungsten halogen lamps with integral outer envelope, ELV low-pressure tungsten halogen lamps and mains voltage tungsten halogen lamps with conform to EN 60432-2 and this standard, that means, to the UV radiation limit of 2 mW/klm. For other tungsten halogen lamps that do not comply with this UV radiation limit, the standard provides in its Annex C.2 that luminaires intended for such lamps should be fitted with a glass protective shield, and that the lamp packaging should have a symbol defined in Annex A.1 of the standard indicating that the lamp shall be operated only in a luminaire with a protective shield.

By contrast, there are no requirements on the UV radiation of compact fluorescent lamps in harmonised standards.

3. It can be concluded that as regards UV radiation limits, Commission Regulation 244/2009 (through its Table 5) and the Community product safety legislation (and related harmonised standards EN 60432-2 and EN 60432-3) cover the same product group (tungsten halogen lamps) and the same technical parameter (UV radiation), however they differ in three respects:

⁴ EN 60432-2:2000 Incandescent lamps — Safety specifications — Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes and Amendment A1:2005 to EN 60432-2:2000

EN 60432-3:2003 Incandescent lamps — Safety specifications — Part 3: Tungsten-halogen lamps (non-vehicle) and Amendment A1:2005 to EN 60432-3:2003

⁵ Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety, OJ L11 of 15.01.2002 p 4-17

⁶ Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (codified version), OJ L374 of 27.12.2006 p. 10-19

⁷ According to the standard, a self-shielded lamp is a lamp for which the luminaire needs no protective shield.

Differing parameter	Commission Regulation 244/2009 Table 5	Community product safety legislation and related EN 60432-2 and EN 60432-3
Total UV radiation	≤ 2.05 mW/klm [by adding up max. possible UVA+B+C]	≤ 2 mW/klm (meaning in practice max. 2.4 mW/klm) or else luminaire with protective shield and warning symbol on lamp packaging to use such luminaire
UVA+UVB radiation	≤ 2.0 mW/klm (meaning in practice max. 2.04 mW/klm)	Not specified, in any case ≤ 2 mW/klm
UVC radiation	≤ 0.01 mW/klm	Not specified, in any case ≤ 2 mW/klm

On the other hand, the UV radiation limits for compact fluorescent lamps in Table 4 of Commission Regulation 244/2009 do not have a counterpart in harmonised standards.

II. Necessity to resolve inconsistencies

It is considered necessary to tackle the following inconsistencies:

1. Article 15 of the Ecodesign framework Directive (2005/32/EC) requires that the Commission develop implementing measures for those energy-using products that have significant potential for improvement in terms of their environmental impact, taking into account the absence of other relevant Community legislation (point 2.c first indent). Furthermore, in preparing draft implementing measures, the Commission shall also take into account relevant Community legislation (point 3.b).

Conformingly, recital 9 of Commission Regulation 244/2009 indicates that although the mercury content of compact fluorescent lamps is considered as a significant environmental aspect, it is appropriate to regulate it under Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.⁸

Similarly it is appropriate to regulate UV radiation of lamps under Community product safety legislation, taking into account the existence of harmonised standards limiting the UV radiation of tungsten halogen lamp identified in part I of this note.

2. The comparison table above shows that the UV radiation limits set for tungsten halogen lamps in Commission Regulation 244/2009 and in harmonised standards EN 60432-2 and EN 60432-3 under Community product safety legislation differ in

⁸ OJ L 37, 13.2.2003, p. 19.

several points. For the total of UV radiation, the Regulation and the standards do not use consistent decimal truncation. The total of UVA, UVB and UVC radiation could be summed up to 2.05 mW/klm in the Regulation and to 2.4 mW/klm in the standards. The Regulation sets specific values for the UV radiation subtypes, while the standards do not segment the total. EN 60432-3 allows UV radiation higher than 2 mW/klm for the lamp provided that the lamp is operated in a luminaire with a protective shield and a warning symbol on the lamp packaging indicates the need to use such a luminaire.

This leads to incoherence between the two sets of requirements, as the placing on the market of the same product may be allowed with respect to UV radiation by one legislation, while it may be forbidden on the grounds of the same technical parameter by the other.

3. The European Lamp Companies' Federation (ELC) has provided evidence that while halogen lamps with no second envelope (halogen capsules and double-capped linear halogen lamps such as G4, GY6.35, G9 or R7s) fulfil the requirements on total UV radiation of harmonised standards EN 60432-2 and EN 60432-3 under Community product safety legislation (≤ 2 mW/klm), they cannot meet the requirements on UV-C radiation (≤ 0.01 mW/klm) in Table 5 of Commission Regulation 244/2009. There exist versions of these halogen lamps improved to energy label class C (mains voltage, filled with xenon gas) and class B (low voltage, with infrared coating). As Recital 21 of the Regulation clearly indicates, special cap halogen lamps with improved energy efficiency were not meant to be phased out by the Regulation: "The requirements contained in this measure allow halogen lamps of socket G9 and R7s to remain on the market for a limited period of time" (the limited period is not defined in the Regulation). Lines 7-8 limiting the UV radiation of halogen lamps in Table 5 of the Regulation would therefore inadvertently phase out in practice those lamps from 1 September 2009.

According to ELC measurements, even conventional incandescent bulbs and some double envelope halogen bulbs have UV-C radiation values slightly above the 0.01 mW/klm limit, so that they could also be banned by the Regulation starting from 1 September 2009. This was not the intention, as the energy efficiency requirements of the Regulation foresee a staged phase-out of clear incandescent bulbs (until 2012) and allow improved double envelope clear halogen bulbs as retrofit solutions.

2. CONSULTATION OF INTERESTED PARTIES AND IMPACT ASSESSMENT

• Consultation of interested parties

A written consultation of the Ecodesign Consultation Forum was held from 8 to 22 April 2009. The Commission services presented a working document suggesting an amendment to Commission Regulation 244/2009 related to non-directional household lamps. The working document was included in the Commission's CIRCA system alongside the stakeholder comments received in writing. All the comments received agreed with the proposal to remove the UV radiation limit values from Regulation 244/2009 as they are covered by harmonised standards, and in their current form would lead to the phase-out of major categories of halogen bulbs. In their response, many Member States and also stakeholders (including consumer NGOs) stressed that the Commission should mandate an update of the relevant harmonised standards with a view to examine the need and feasibility to set separate UVC radiation values for the lamps involved.

- **Impact assessment**

The draft regulation is an amendment of a single provision of an autonomous act which in principle does not require an impact assessment. However the Ecodesign Directive (2005/32/EC) provides for a need to assess the likely impacts of implementing measures. Considering the restricted scope of and limited options for the amendment, possible impacts are quite obvious, therefore no separate impact assessment report was produced.

The impact of the available options can be assessed as follows:

Option 1

No action

Regulation 244/2009 would not be amended. In this case, major categories of widely used halogen bulbs would be phased out from 1 September 2009.

Industry would suffer economic damage because of the unpredicted removal of an important part of their portfolio, for which no replacement products would be available. Production lines for halogen lamps such as G4, GY6,35, G9 or R7s of all European lamps manufacturers in Germany, France, Belgium, Poland, Hungary and China would be subject to a possible close down causing hundreds of workers to lose their jobs, if these lamps cannot be placed on the market anymore.

Consumers would not be able to buy replacement lamps for luminaires designed for such low voltage and main voltage halogen lamps (widely used in Europe). Without replacement lamps, they would have no choice but to discard the luminaires and buy new ones.

Incoherence of EU legislation. The overlap between Regulation 244/2009 and Community product safety legislation as well as the internal incoherence of the Regulation would remain such as the conflict between Recital 21 and the result of the UV requirements of Table 5. The placing on the market of the same product may be allowed with respect to UV radiation by one legislation, while it may be forbidden on the grounds of the same technical parameter by the other (see table in part I).

Option 2

Modifying or removing the specific requirements on UVC radiation in Table 5 of Regulation 244/2009

Regulation 244/2009 would be amended by raising the UVC radiation limit or removing it altogether so that no halogen bulbs are banned that are not meant to be phased out by the other provisions of the Regulation. Note that a short-term raising of the UVC limit would have to be done while lacking evidence from round-robin tests about UVC radiation of halogen lamps.

This Option 2 could solve all the issues identified under Option 1, except:

Incoherence of EU legislation. The overlap and incoherence between Regulation 244/2009 and Community product safety legislation would remain. Compatibility could only be ensured at this stage by modifying the UV requirements in the Regulation to those of the harmonised standards, that means, to a UV radiation limit of 2 mW/klm, albeit future revisions of the Regulation and of the harmonised standards would face substantial difficulties in constantly maintaining this compatibility.

Option 3

Removing the specific requirements on UV radiation entirely from Regulation 244/2009 (both from Table 4 and 5)

Regulation 244/2009 would be amended by removing specific UV radiation limit values from Table 4 and 5. The rationale behind this would be that it is under Community product safety legislation that the safety of lamps has been regulated so far (including as regards radiation). The European Commission would mandate the European Standardisation Organisations to review the relevant safety standards for inclusion of further or revised radiation limit values as appropriate.

This approach is not appropriate for the following reason:

UV radiation of compact fluorescent lamps has proved to be a potential issue, but it is not covered by harmonised standards under Community product safety legislation. Removing the UV radiation limits from Table 4 would make Community legislation vague from this respect, awaiting the creation of appropriate provisions in the relevant harmonised standards by the European Standardisation Organisations. It is not advisable to allow this at the time of the phase-out of incandescent bulbs, when the use of compact fluorescent lamps is expected to rise sharply.

Option 4

Removing the specific requirements on UV radiation only from Table 5 in Regulation 244/2009

Regulation 244/2009 would be amended by removing the specific UV radiation limit values from Table 5. **Table 4 would be left unchanged; this would ensure that the UV radiation limits for compact fluorescent lamps are precisely regulated (as they are not yet covered by the standards)**. The setting of UV radiation limits for tungsten halogen lamps would be left to harmonised standards EN 60432-2 and EN 60432-3 the application of which provides presumption of conformity with Community product safety legislation. The European Commission would mandate the European Standardisation Organisations to review the relevant safety standards (including for compact fluorescent lamps and LED lamps) for inclusion of further or revised radiation limit values as appropriate. If harmonised standards are available for the UV radiation limits of compact fluorescent lamps and possibly LED lamps by the time of the revision of the Regulation, even the related specific requirements in Table 4 could be replaced by a generic requirement or removed, for the sake of coherence between the Regulation 244/2009 and Community product safety legislation.

This option would solve all the issues identified under the previous options. Compared to the situation before the adoption of Regulation 244/2009, nothing changes regarding possible health effects of UV radiation from tungsten halogen lamps, which have been in use for decades. In any case, the European Commission intends to mandate the European Standardisation Organisations to review the limits set in harmonised standards EN 60432-2 and EN 60432-3, taking into account the opinion of the independent Scientific Committee(s), established by the Commission, who will be consulted on the appropriateness to establish a risk-based limit value for the UVC radiation of lamps other than compact fluorescent lamps. The strict limits introduced in Regulation 244/2009 for compact fluorescent lamps are maintained.

Since due to the scrutiny rights of the European Parliament, the Commission is likely to adopt the amending regulation later than the application date of the provisions to be amended, the amendment would have a retroactive effect from 1 September 2009 in order to ensure that the placing on the market of tungsten halogen bulbs not complying with the UVC radiation limit of Table 5 between the 1 September and the date of entry into force of the amendment will be considered legal after the adoption of the amendment.

Conclusion

It is obvious from the analysis above that Option 4 solves the problem raised while not bringing in any negative impact.

3. LEGAL ELEMENTS OF THE PROPOSAL

• Summary of the proposed action

It is proposed to amend Regulation 244/2009 by removing the specific UV radiation limit values from lines 7 and 8 of Table 5.

The corresponding requirements on UV radiation of compact fluorescent lamps in Table 4 of the Regulation remain in place, as those specific requirements do not have a counterpart under Community product safety legislation.

• Legal basis

The proposed Regulation amends an implementing measure pursuant to Directive 2005/32/EC, and in particular Article 15 (1) thereof. The Directive is based on Article 95 of the Treaty.

• Subsidiarity principle

The proposed Regulation amends an existing measure which was adopted in line with the principle of subsidiarity.

• Proportionality principle

In accordance with the principle of proportionality, this measure does not go beyond what is necessary in order to achieve the objective.

• Choice of instruments

Proposed instrument: Regulation

The proposed form of action is a Commission Regulation (implementing framework Directive 2005/32/EC), because the measure to be amended is also a Commission Regulation implementing that Directive.

4. BUDGETARY IMPLICATION

The proposal has no implication for the Community budget.

5. ADDITIONAL INFORMATION

- **Review/revision/sunset clause**

The proposal does not include a review clause, as it is an amendment to an existing measure which already has a review clause.

- **Trade implications**

WTO/TBT was notified to ensure that no barrier to trade is introduced.

- **European Economic Area**

The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.