HERCA
Heads of the European Radiological protection Competent Authorities

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HERCA interim statement about the regulatory status of small amounts of radioactive substances added to lamps

Small amounts of radioactive substances have been added to lamps used in various public and professional environments to increase light intensity or to provide a starter aid function[1].

Such technologies were introduced by the industry many decades ago into some lamps used in professional environments such as stadia, shop, and office lighting as well as specialised industrial and cinematic applications. However, the market for these lamps is growing rapidly and includes some public uses such as high intensity discharge head lights in cars. HERCA has been approached by the European Lamp Companies Federation (ELC) to share an international regulatory compliance issue. Whilst the quantity of radioactive substances contained in each lamp is too small to require authorization by the regulator, the authorization criteria in European and national legislation can be exceeded when many lamps are used, stored, or disposed of together. The likelihood of such situation is now increasing with the growing demand for such lamps.

An assessment provided by the UK Health Protection Agency (HPA) and a draft report by the International Atomic Energy Agency (IAEA) conclude that the impact of using such lamps in normal and accident scenarios is below the exemption levels laid down in the IAEA international basic safety standard and in the European Council Directive 96/29/Euratom[2]. This means that their use presents only a very small risk[3]. ELC have therefore suggested that, on this basis, activities related to the use of lamps containing these small amounts of radioactive substances, except production processes[4], could be exempted from authorization.

Some European countries have already taken a regulatory decision on this issue and others are currently assessing the technical data in order to prepare their regulatory decision.

Results of national assessments and regulatory decisions will be shared in Europe through HERCA to promote a consistent European approach to this process. HERCA will also share information with European Association of Competent Authorities (EACA) on the transport of radioactive material, since the regulatory compliance issue raised by ELC also covers international transport legislation.
As consumer goods are introduced in open markets in Europe, HERCA recognises more generally the need for harmonization of the radiation safety regulation of goods containing small quantities of radioactive material.

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[1] *Thorium 232, Krypton 85 or Tritium are the principle radioactive substances used by the lamp industry in small quantities either to improve electrode metallurgical properties, to optimize the light spectrum, or to provide a starter aid function either in high intensity lamps (xenon car lighting, metal halide low wattage lighting used in shops, metal halide high wattage lighting used outdoor for instance in stadium, special lighting used in industrial processes or in theatre or for movies) or in older fluorescent lamps.*

[2] *"Exceptionally (…), individual Member States may decide that a practice may be exempted where appropriate without further consideration, in accordance with the basic criteria (…), provided that the following criteria are met in all feasible circumstances:*
(a) the effective dose expected to be incurred by any member of the public due to the exempted practice is of the order of 10 μSv or less in a year; and
(b) either the collective effective dose committed during one year of performance of the practice is no more than about 1 man x Sv or an assessment of the optimization of protection shows that exemption is the optimum option. » (Council Directive Euratom 96/29)

[3] *These assessments don't cover the production processes of lamps containing small amount of radioactive substances, which can handle a significant quantity of radioactive substances.*

[4] *This activity is and shall remain under the regulatory control.*